

**DXC-3000/3000A**

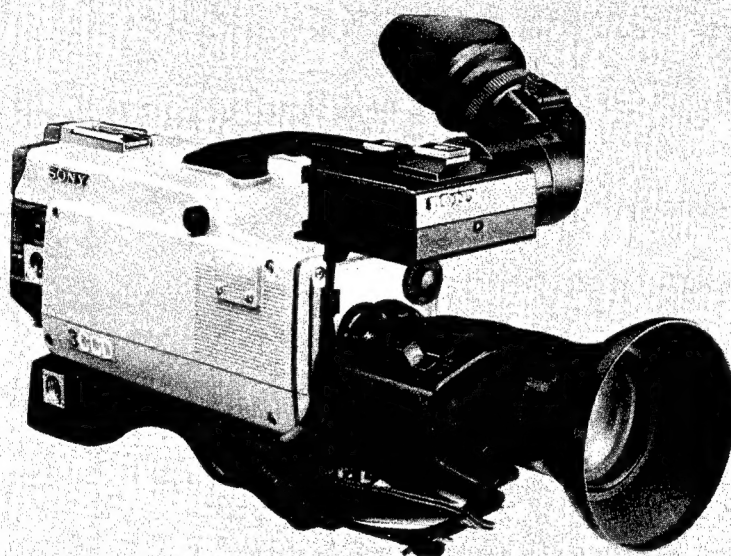
**DXF-3000**

**VCT-12**

**VCL-1012BY**


**CCQ-2ARS/2BRS**

Revised-2



**SONY**  
**SERVICE**

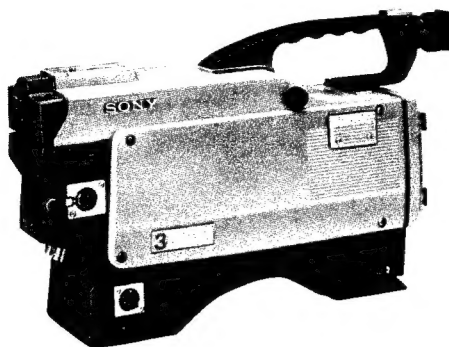
### **SAFETY RELATED COMPONENT WARNING**

Components identified by shading and  marked on the schematic diagrams and parts list are critical to safe operation. Replace these components with SONY parts whose part numbers appear as shown in this manual or in supplements published by SONY.

### **X-RAY RADIATION WARNING**

Be sure that parts replacement in the high voltage block and adjustments made to the high voltage circuits are carried out precisely in accordance with the procedures given in this manual.

# 3-CHIP CCD VIDEO CAMERA HEAD

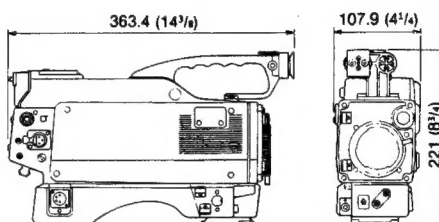


## SPECIFICATIONS

### Camera (DXC-3000/3000A)

Image device	Interline-transfer CCD, 3-chip
Picture elements	510 x 492 (h/v)
Sensing area	8.8 mm x 6.6 mm (equivalent to a 2/3-inch pickup tube)
Built-in filters	1: 3,200°K 2: 5,600°K + 1/8 ND 3: 5,600°K
Lens mount	Bayonet mount
Signal system	EIA standards, NTSC color system (for DXC 3000/3000A)
Scanning system	525 lines, 2:1 interlace, 30 frames/sec.
Scanning frequency	Horizontal: 15.734 kHz Vertical: 59.94 Hz
Sync system	Internal External with the BS or VBS signal supplied to the GEN LOCK input connector or the reference signal input to the VTR/CCU/CMA connector from the GEN LOCK connector of the CCU-M3
Horizontal resolution	520 lines (center) (for DXC-3000) 560 lines (center) (for DXC-3000A)
Minimum illumination	25 lux with F1.7, + 18 dB
Sensitivity	2,000 lux with F5.6, at 3,200°K
Gain selection	0 dB, 9 dB or 18 dB, selectable
Video output	1.0 V(p-p), sync negative, 75 ohms, unbalanced
Signal to noise ratio	56 dB (for DXC-3000) 58 dB (for DXC-3000A)
Registration	0.05 % for Zone I 0.05 % for Zone II 0.05 % for Zone III
Inputs/Outputs	VTR/CCU/CMA connector: Sony Q-type, 14-pin MIC IN: XLR-type, 3-pin GEN LOCK: BNC-type VIDEO OUT: BNC-type LENS: 6-pin VF: 8-pin EAR: mini jack INTERCOM: mini intercom
Power requirements	12 V DC
Power consumption	9 W (for camera only) (for DXC-3000) 9.2 W (for camera only) (for DXC-3000A)
Operating temperature	-5°C to +45°C (23°F to 113°F)
Storage temperature	-20°C to +60°C (-4°F to 140°F)
Weight	3.3 kg (7 lb 4 oz)

### Dimensions Unit: mm (inches)



### Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable
Zooming ratio	12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable 1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	W (wide angle): 616 x 822 mm (24 1/4 x 32 3/8 inches) T (telephoto): 51.4 x 68.5 mm (2 1/32 x 2 11/16 inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm (4 3/4 x 8 1/32 inches)

### Viewfinder (DXF-3000)

Picture tube indicators	1.5-inch monochrome REC/TALLY indicator BATT indicator LOW LIGHT indicator GAIN UP indicator
Resolution	400 lines
Power requirements	DC 12 V
Power consumption	2.3 W
Weight	Approx. 600 g (1 lb 5 oz)
Dimensions	Approx. 201 x 68 x 184mm (w/h/d) (7 7/8 x 2 11/32 x 7 1/4 inches)

### Carrying case (LC-3001)

Weight	Approx. 4.4 kg (9 lb 8 oz)
Dimensions	Approx. 620 x 394 x 234 mm (w/h/d) (24 7/16 x 15 1/2 x 9 1/4 inches)

# SONY®

## SERVICE MANUAL

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## SECTION 1

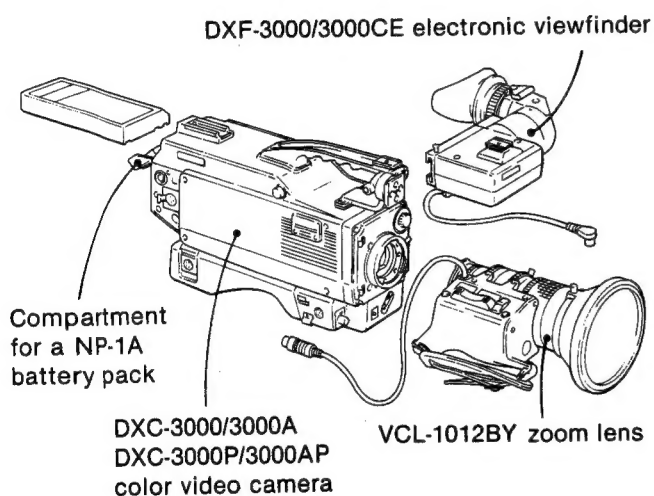
### GENERAL DESCRIPTION

#### OUTLINE

The DXC-3000/3000A/3000P/3000AP is a portable color video camera which uses a 3-chip CCD (Charge Coupled Device) solid state image sensor. The camera can be used for outdoor recording when used with a portable video cassette recorder, and can also be used as a studio camera when connected to the CCU-M3/M3P camera control unit.

The video output signal for DXC-3000A/3000AP can be selected as either the usual composite video signal or the Y (luminance or brightness)/C (chroma or color) separate signal with the switch on the board.

#### BASIC CONFIGURATION AND FEATURES



##### Adoption of CCD

- Incorporation of a CCD results in a compact, light-weight camera body which consumes less power than does a camera using pickup tube(s).
- Low lag, high resistance to image burning and no deflection distortion.
- The CCD is not affected by vibration and mechanical shock.
- The CCD imager is not influenced by terrestrial magnetism.
- Thanks to the high signal-to-noise ratio, the video output level can be raised by 9 dB or 18 dB to obtain a clear picture under low light conditions.

##### Various connection capability

- It is possible to connect the camera to a VTR used for home entertainment.
- The camera can be used as a studio camera when connected to a CCU-M3/M3P camera control unit.
- The camera can be connected to an S-VHS format VTR (only DXC-3000A/3000AP)

##### Power sources

- A compartment for the NP-1A battery pack is built into the camera. The camera and 1.5-inch viewfinder can be used for about 100 minutes with a fully charged NP-1A (optional).
- When a DC-8 battery adaptor (optional), containing two NP-1As, is installed, the camera can be used continually for about 200 minutes.
- The power can be supplied to the camera from a portable VTR or from the CCU-M3/M3P camera control unit.
- A CMA-8/8CE camera adaptor (optional) is needed if the camera is to be used with the AC power source.

##### Automatic adjustment and memory functions

- The white balance and black balance are automatically adjusted by a microcomputer, and the adjusted values are retained for about 12 hours while the camera's power is off.
- The black level drift is automatically adjusted, together with the black balance.
- If the entire picture is too bright, the black level is lowered to the appropriate level by the automatic black level (ABL) adjustment so that a picture with good contrast can be obtained.

##### Display and related functions

- The character generator built into the camera displays title characters to be inserted on the viewfinder or monitor during recording.
- In addition to title characters, the operational status of the camera and the warning indications are also displayed on the viewfinder.
- The REC indicator on the viewfinder blinks if a VTR malfunctions.
- Zebra pattern appears on the viewfinder screen when the video output level is about 70 to 80 IRE (for NTSC model) or 490 to 560 mV (for PAL model). This pattern provides a useful reference when the operator manually adjusts the iris.

##### Easy to operate the viewfinder

- The diopter can be adjusted to accommodate the operator's visuality.
- The viewfinder can be moved to the right and left.

##### Other features

- Built-in microphone
- Built-in color temperature conversion filter

# COMPOSITION

The DXC-3000/3000P, DXC-3000A/3000AP, DXC-3000K/3000PK, DXC-3000AK/3000APK, DXC-3000H/3000PH, and the DXC-3000AH/3000APH comprise slightly different components, as noted below. However, the operating procedure for the camera itself is the same. If you use a zoom lens other than the VCL-1012BY zoom lens, refer to the lens' instruction manual for information about its operation.

LC-3001 carrying case

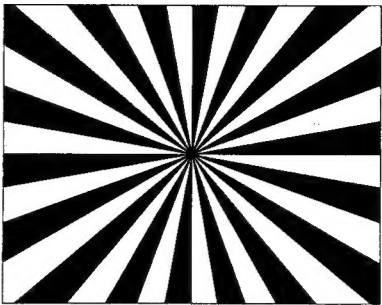
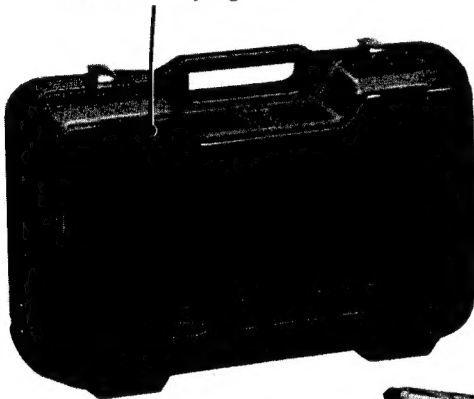
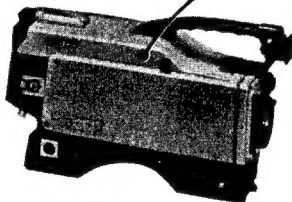


Chart for flange focal length adjustment

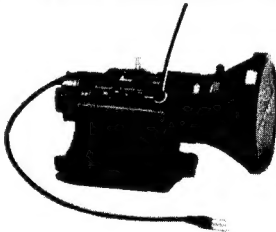
VCT-12 tripod attachment



Color video camera head



VCL-1012BY zoom lens



CCQ-2ARS camera cable  
(for DXC-3000/3000P)  
CCQ-2BRS camera cable  
(for DXC-3000A/3000AP)



DXF-3000/3000CE electronic viewfinder



Composition \ Model	DXC-3000/ 3000P	DXC-3000K/ 3000PK	DXC-3000H/ 3000PH
Color video camera head	Yes	Yes	Yes
Zoom lens VCL-1012BY	No	Yes	No
Viewfinder DXF-3000/3000CE	Yes	Yes	No
Carrying case LC-3001	Yes	Yes	No
Camera cable CCQ-2ARS	Yes	Yes	No

Composition \ Model	DXC-3000A/ 3000AP	DXC-3000AK/ 3000APK	DXC-3000AH/ 3000APH
Color video camera head	Yes	Yes	Yes
Zoom lens VCL-1012BY	No	Yes	No
Viewfinder DXF-3000/3000CE	Yes	Yes	No
Carrying case LC-3001	Yes	Yes	No
Camera cable CCQ-2BRS	Yes	Yes	No
Tripod attachment VCT-12	Yes	Yes	No
Chart for flange focal length adjustment	Yes	Yes	Yes

## PRECAUTIONS

### Safety

- Operate the camera only on 12 V DC. For operation from an ac power line, use the camera adaptor recommended for this camera. Do not use any other camera adaptor.
- Allow adequate air circulation to prevent internal heat build-up.

### Operation

- Avoid rough handling or mechanical shock, especially when the lens faces downward.
- Do not operate the camera outside a  $-5^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$  ( $23^{\circ}\text{F}$  to  $113^{\circ}\text{F}$ ) temperature range.
- Keep the camera in a horizontal plane.
- Keep the camera away from very strong magnetic fields to avoid distortion and flutter on the screen.
- Do not hold the camera by the viewfinder.

### Operation of the viewfinder

Do not point the viewfinder directly at the sun, or the plastic inside the viewfinder may be damaged.

### Cleaning

Clean the cabinet, panel and controls with a dry soft cloth, or soft cloth lightly moistened with a mild detergent solution. Do not use any type of solvent, such as alcohol or benzine, which might damage the finish.

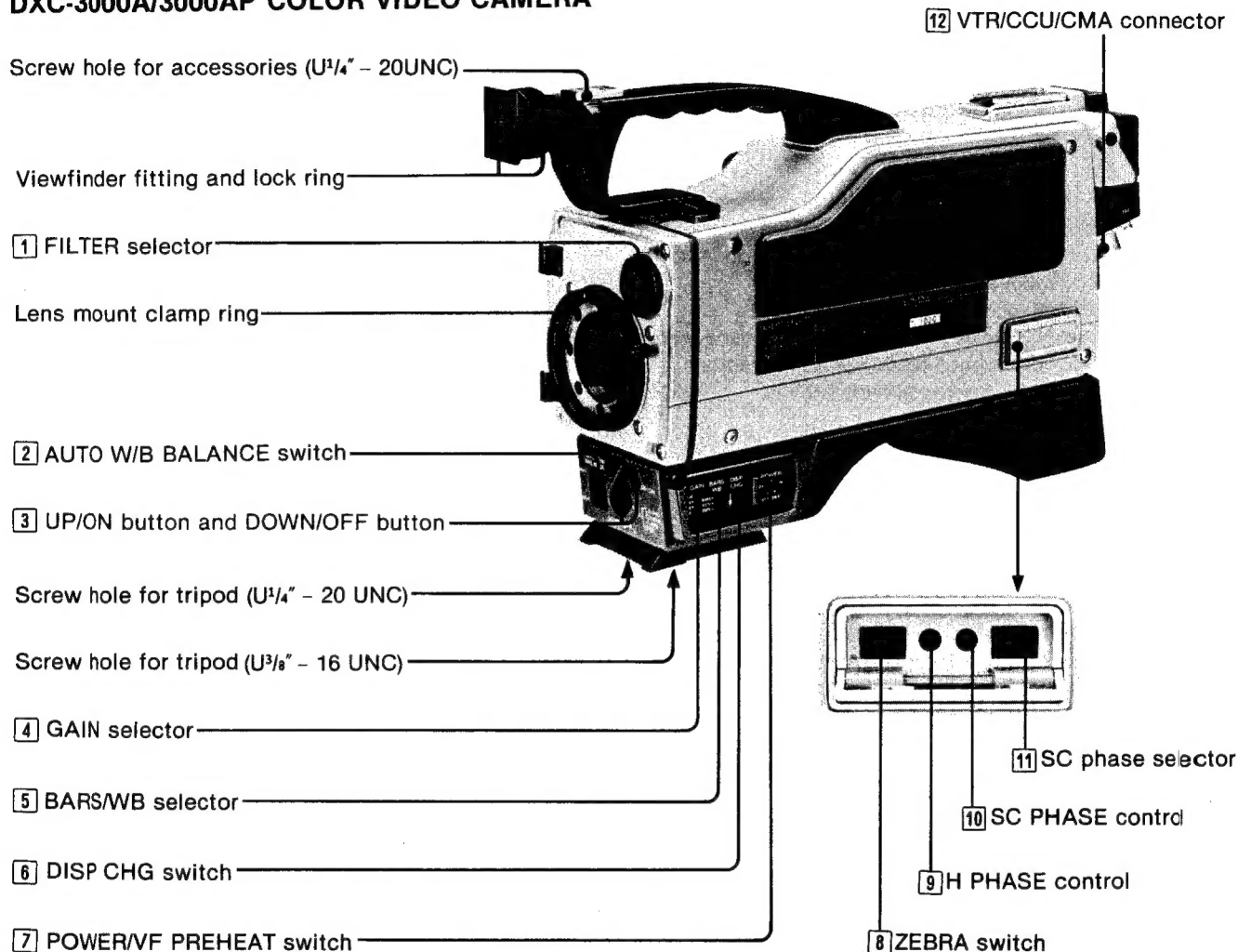
### Repacking

Do not discard the carton. It affords maximum protection whenever the camera is transported. Do not transport or ship the camera only in the carrying case. Repack it as it was originally packed at the factory.

## LOCATION AND FUNCTION OF CONTROLS

Each number in the photo is keyed to the descriptive text.

### DXC-3000/3000P DXC-3000A/3000AP COLOR VIDEO CAMERA



#### 1 FILTER selector

Select the appropriate filter as indicated below.

Filter number	Color temperature	Lighting conditions
1	3200°K	Iodine lamp, sunrise or sunset
2	5600°K + 1/8 ND*	Bright outdoor
3	5600°K	Cloudy or rainy

\* ND : Neutral density filter

#### 2 AUTO W/B BALANCE (automatic white/black balance) adjustment switch

When the BARS/WB selector [5] is set to AUTO, white balance and black balance can be automatically adjusted with this switch. Black balance can also be adjusted automatically with this switch when the

BARS/WB selector is set to 3200°K.

**WHT:** For automatic white balance adjustment, set this switch to WHT. The adjusted value will be automatically stored in the memory.

**BLK:** For automatic black balance and black set level adjustment, set this switch to BLK. The adjusted value will be automatically stored in the memory.

This switch automatically returns to the center position when it is released after being set to WHT or BLK.

#### 3 UP/ON button and DOWN/OFF button

These buttons are used with the DISP CHG [6] switch (1) to set and position the title characters, (2) to switch the "LOW LIGHT" indication on or off, (3) to raise or lower the reference level of the automatic iris adjustment, or (4) to raise or lower the master pedestal level. For details, refer to "Warning Indicators and Character Display" on page 1-25.



**4 GAIN selector**

Normally set this selector to "0". When the selector is set to "9" or "18", the video output level is raised by 9 dB or 18 dB respectively.

**5 BARS/WB (color bar generation/white balance adjustment) selector**

**BARS:** When the selector is set to this position, a color bar signal is generated, supplied to the viewfinder and output from the VIDEO OUT and the camera cable connectors. Use this position for adjusting the video monitor. At this position, the iris of the zoom lens attached to the camera will be automatically closed.

**AUTO:** Generally set the selector to this position. When the AUTO W/B BALANCE switch **2** is set to WHT or BLK, the white balance or black balance will be automatically adjusted (and stored in the memory). After the adjustment, the memorized white balance and black balance values are always obtained at this position.

**3200°K:** At this position the white balance is set to the factory preset value of an iodine lamp (3200°K). When the selector is set to this position, set the FILTER selector **1** to an appropriate position. Use this position when there is no time to adjust the white balance. When the BARS/WB selector is set to this position, the automatic white balance adjustment of the AUTO W/B BALANCE switch **2** will not operate. (However, the automatic black balance adjustment of the AUTO W/B BALANCE switch operates.)

**6 DISP CHG (display change) switch**

Each time this switch is pressed, the character display on the viewfinder screen changes in the following order: (1) alarm indication, (2) "LOW LIGHT" indication on/off, black balance, white balance, and gain settings, (3) initial indication of title setting and display of set title characters, (4) reference level setting for automatic iris adjustment, and (5) master pedestal level setting. For details, refer to "Warning Indicators and Character Display" on page 1-25.

**Note**

In the character display modes (3) to (5), the automatic white balance and black balance adjustment systems do not function.

**7 POWER/VF PREHEAT switch**

**ON:** To turn on the camera

**OFF:** To turn off the camera

**VF PREHEAT:** To put the viewfinder in the standby mode

The power is supplied only to the viewfinder. When this switch is set to "VF PREHEAT", it is possible to monitor the viewfinder screen immediately after starting to shoot.

**8 ZEBRA switch**

This switch is used for manual iris adjustment. When the switch is set to ON, a zebra pattern appears as a reference on the part of the viewfinder screen where the video level of the object is 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). If the zebra pattern is not necessary, set this switch to OFF. (See page 1-23.)

**9 H (horizontal) PHASE control**

When two or more cameras are used, turn this control with a small screwdriver to adjust the H phase difference between the gen-lock input and video output signals. (See page 1-24.)

**Note**

It is not necessary to use this control when only one camera is used.

When a camera control unit is connected, adjust the H phase difference with the H PHASE control of the camera control unit.

**10 SC (subcarrier) PHASE control**

When two or more cameras are used, this control is used for fine adjustment of the SC phase after the rough adjustment performed by the SC phase selector **11**. (See page 1-24.)

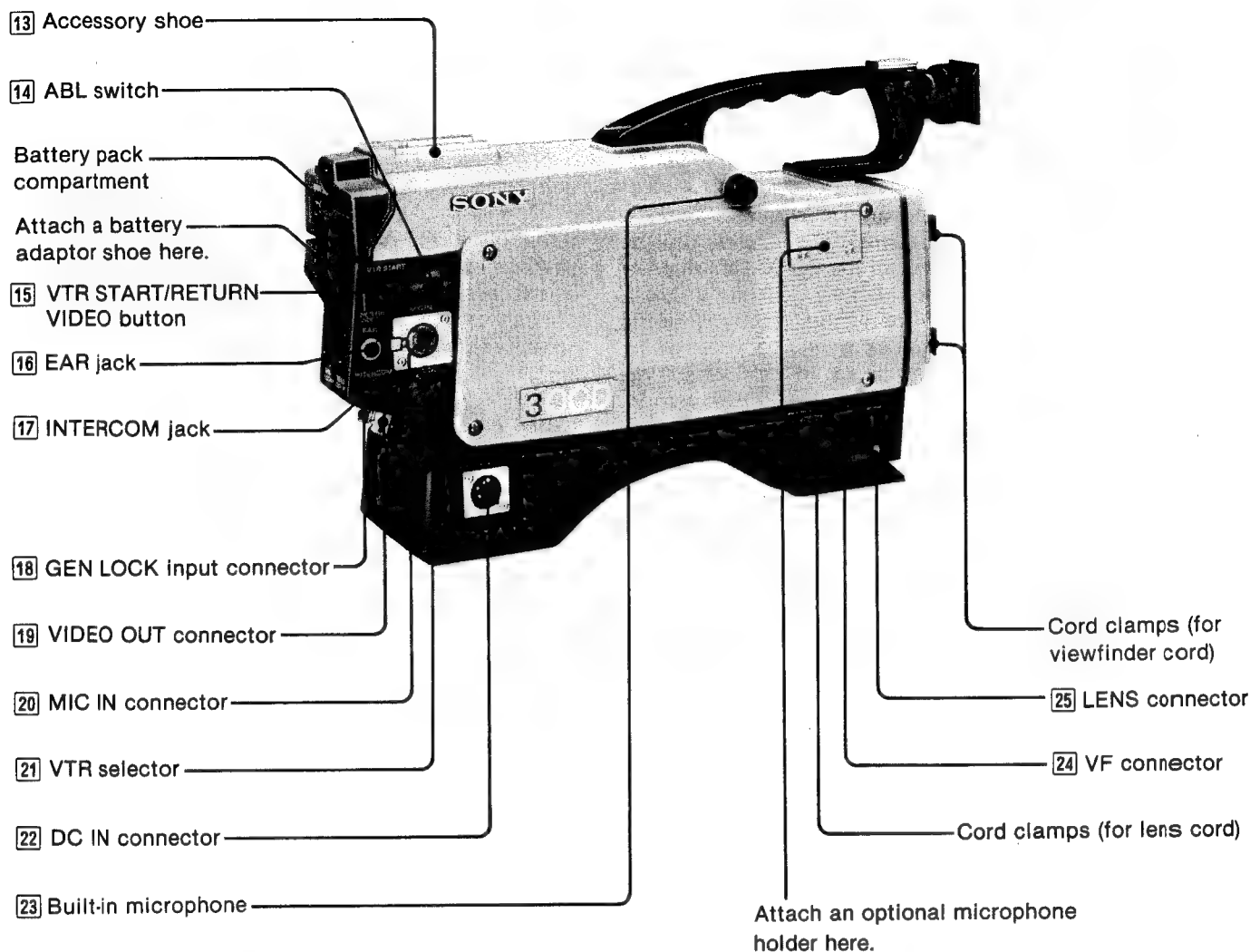
**11 SC (subcarrier) phase selector**

When two or more cameras are used simultaneously, select the SC phase difference between the gen-lock input and video output signals so that it is roughly adjusted to 0° or 180°. (See page 1-24.)

**12 VTR/CCU/CMA connector (Sony Q-type, 14-pin)**

This is the camera's main input/output connector. Connect a VTR, a CCU-M3/M3P camera control unit, or a CMA-8/8CE camera adaptor to this connector using the CCQ camera cable.

The title characters, which are displayed on the viewfinder screen, are output from this connector.



**13 Accessory shoe**

An optional DXF-40/40CE or DXF-50/50CE viewfinder can be attached here. For viewfinder attachment, refer to the viewfinder's instruction manual.

**14 ABL (automatic black level) switch**

When the entire picture is too bright, such as during outdoor shooting, set this switch to ON. The black level will be reduced to the appropriate level, and a well-contrasted picture will be obtained. Normally set the switch to OFF.

**15 VTR START/RETURN VIDEO button**

When the camera is connected to a portable VTR, press this button to start recording. To stop recording, press the button again.

If the camera is connected to a CCU-M3/M3P camera control unit, the return video pictures can be monitored on the viewfinder screen while the button is kept depressed. When the button is released, the camera pictures can be monitored.

**16 EAR (earphone) jack (mini jack)**

Connect an earphone to monitor the playback or recording sound from the VTR.

**17 INTERCOM jack (mini intercom jack)**

Connect a DR-100 intercom headset (optional) here. It will be possible to communicate between the camera and the connected camera control unit or a video switcher.

**18 GEN LOCK input connector (BNC connector)**

Connect the gen-lock input signal (VBS or BS) for synchronization here. No connection is necessary when only one camera is used.

**Note**

When the gen-lock input signal is connected to the camera, the color framing pulse output from the camera cable connector is automatically cut off.

**19 VIDEO OUT (output) connector (BNC connector)**

Connect to the video input of the VTR or video monitor. Title characters displayed on the viewfinder screen are also output from this connector.

**20 MIC IN (microphone input) connector (XLR 3-pin, unbalanced)**

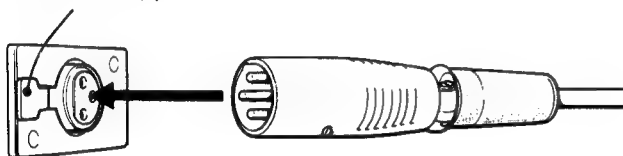
Connect a microphone here.

**Pin configuration**

- 1: Ground 2: Cold 3: Hot (for NTSC)  
1: Ground 2: Hot 3: Cold (for PAL)



To remove, press here.

**Note**

The pins No. 1 (ground) and No.3 (hot for NTSC, cold for PAL) are connected inside the camera (unbalanced microphone input). Make sure that the pin configuration of your microphone is the same as shown above. If the microphone connector has a different pin configuration, an adaptor must be used.

**21 VTR selector**

Selects the VTR start/stop signal levels, etc. in accordance with the type of VTR used. For details, refer to the table on page 1-13.

- 1: For a VTR equipped with a Q-type (14-pin) camera connector such as the Sony VO-6800/6800PS, BVU-110/110P or for the CCU-M3/M3P.
- 2: For a VTR equipped with a K-type (14-pin) camera connector, such as the Sony SL-2000 (NTSC), SL-F1E (PAL) or other Betamax VTRs used for home entertainment.
- 3: For a VHS format VTR manufactured by JVC.
- 4: For a VHS format VTR manufactured by Panasonic.  
For an S-VHS format VTR manufactured by Panasonic (For DXC-3000A/3000AP).

**Caution**

Be sure to set the VTR selector to the correct position for the VTR used. If it is not, the VTR might not operate properly.

**22 DC IN (input) connector (XLR 4-pin)**

Connect the plug of the DC-8 battery adaptor to supply power from the batteries.

**Note**

When the battery is connected to this connector, the power is automatically cut off from both an NP-1A inside the battery pack compartment and the VTR/CCU/CMA connector.

**23 Built-in microphone**

When the camera cable is connected to a portable VTR, the built-in microphone is automatically connected, so a sound recording can be made simultaneously with the video recording.

**24 VF (viewfinder) connector (8-pin)**

Connect the plug of the viewfinder.

**25 LENS connector (6-pin)**

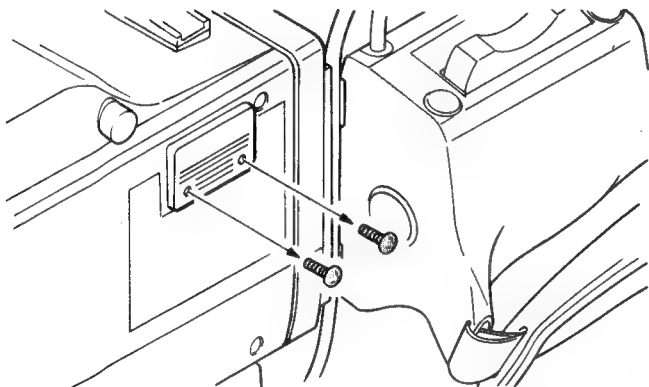
Connect the lens connector plug of the lens here.

## SYSTEM SET-UP

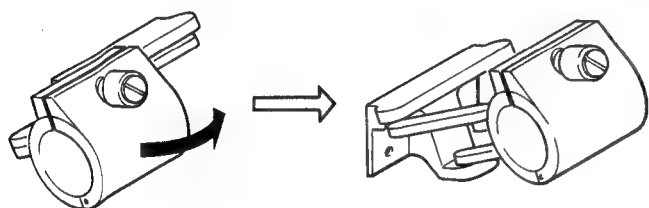
### MICROPHONE ATTACHMENT

In order to use the C-74 external microphone (optional), first attach the CAC-11 or CAC-11A microphone holder (optional) to the camera head.

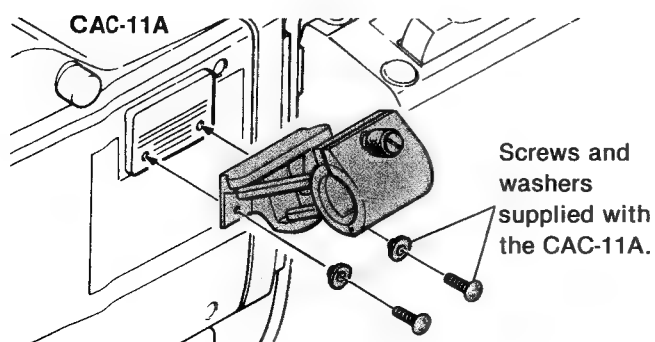
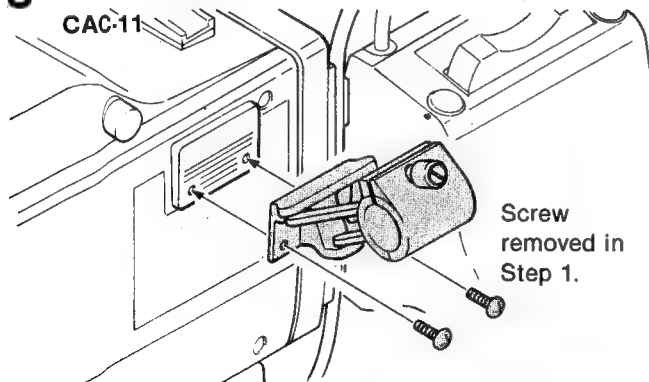
- 1 Remove the two screws from the side of the camera head.



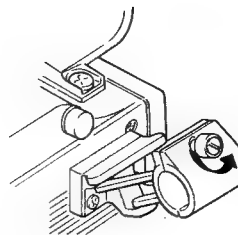
- 2 Extend the microphone holder as illustrated.



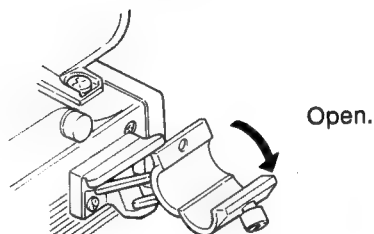
- 3 Attach the holder to the camera head.  
CAC-11



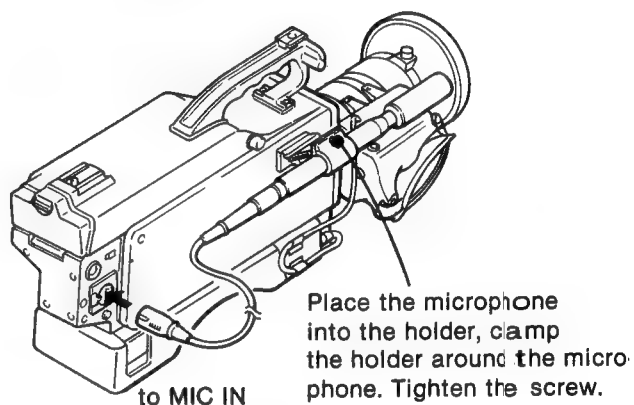
- 4 Loosen the screw.



- 5

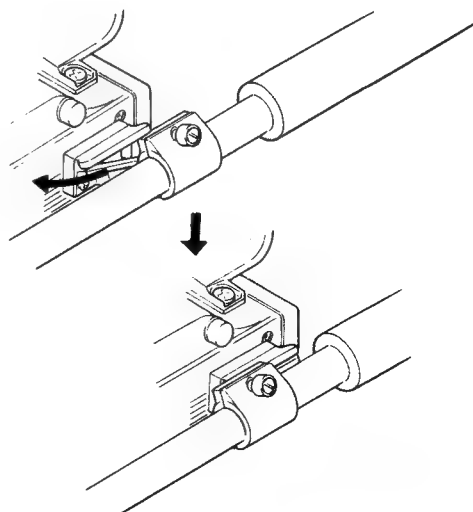


- 6



**To store the camera in the carrying case with the microphone mounted**

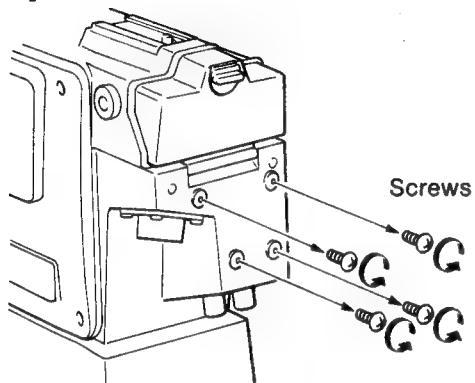
Push the microphone holder in toward the camera as illustrated.



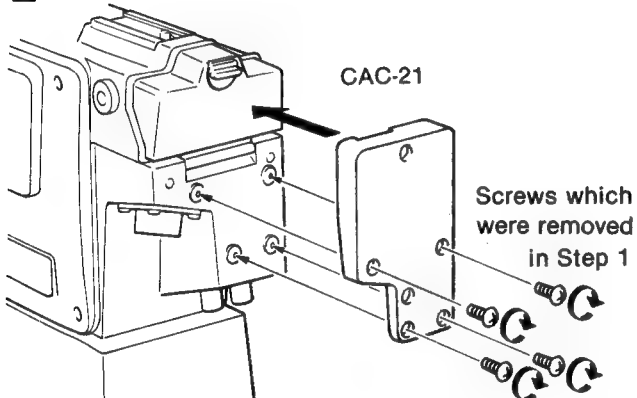
## BATTERY ADAPTOR ATTACHMENT

When you wish to use the camera for an extended period of time, attach the DC-8 battery adaptor (optional) to the camera by using the CAC-21 battery shoe (optional). Insert two charged NP-1A battery packs (optional).

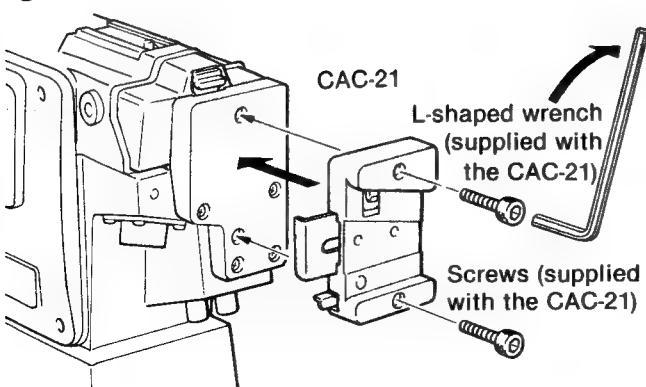
1



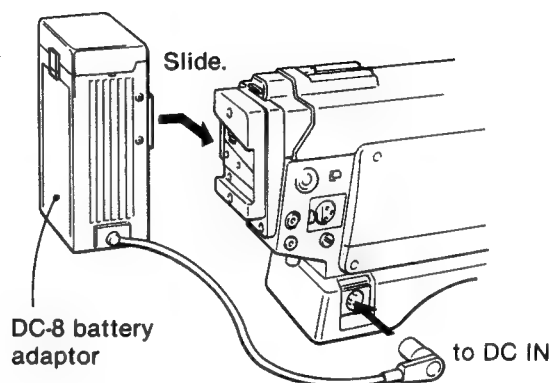
2



3

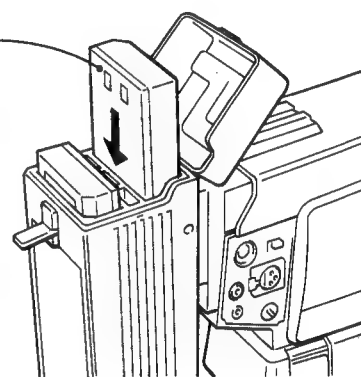


4



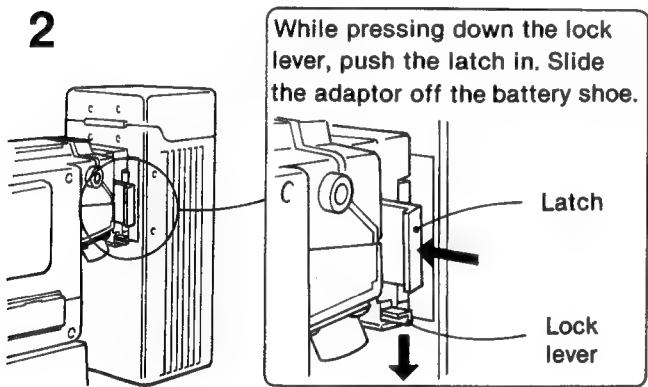
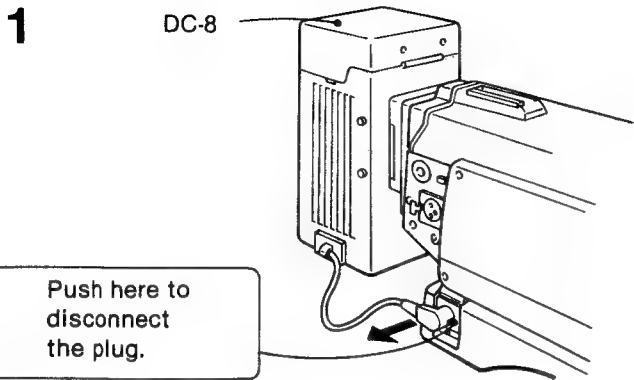
5

NP-1A battery pack





**Battery adaptor detachment**



## POWER SOURCES

The DXC-3000/3000P/3000A/3000AP operates on any of the following three types of power sources:

- (1) Power from the DC IN connector, using the DC-8 battery adaptor
- (2) A built-in NP-1A battery pack
- (3) Power from the VTR/CCU/CMA connector
  - Power from the VTR when connecting a portable VTR
  - Power from the CCU when connecting a CCU-M3/M3P camera control unit
  - Power from the camera adaptor when connecting a CMA-8/8CE camera adaptor

### Priority of power sources

When two or three of the power sources (1) to (3) are simultaneously connected to the camera, only one of them is used according to numerical order priority, and the other power source(s) is (are) automatically cut off.

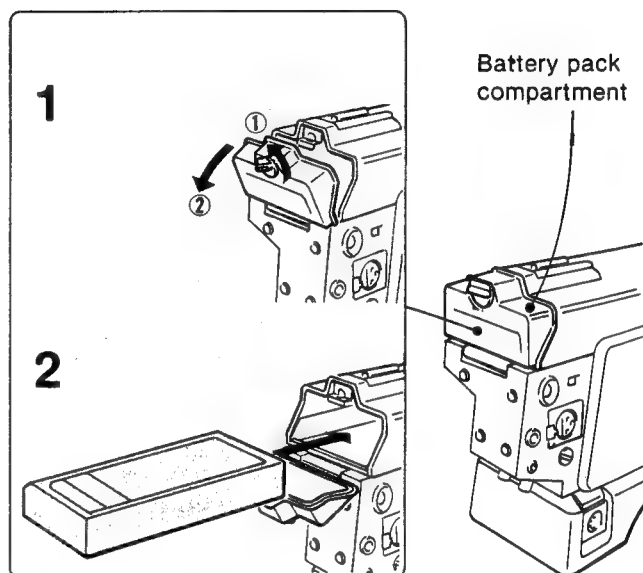
### POWER FROM THE DC IN CONNECTOR

When you wish to use the camera for an extended period of time, use a DC-8 battery adaptor which contains two NP-1As. For installation of the DC-8, refer to page 1-8.

### BUILT-IN NP-1A BATTERY PACK

Use a fully charged NP-1A battery pack (optional) by inserting it into the battery pack compartment.

#### How to insert the NP-1A



### Battery life

#### Continuous operation time

When using two fully charged NP-1As: About 200 minutes

When using one fully charged NP-1A: About 100 minutes.

#### Battery life warning

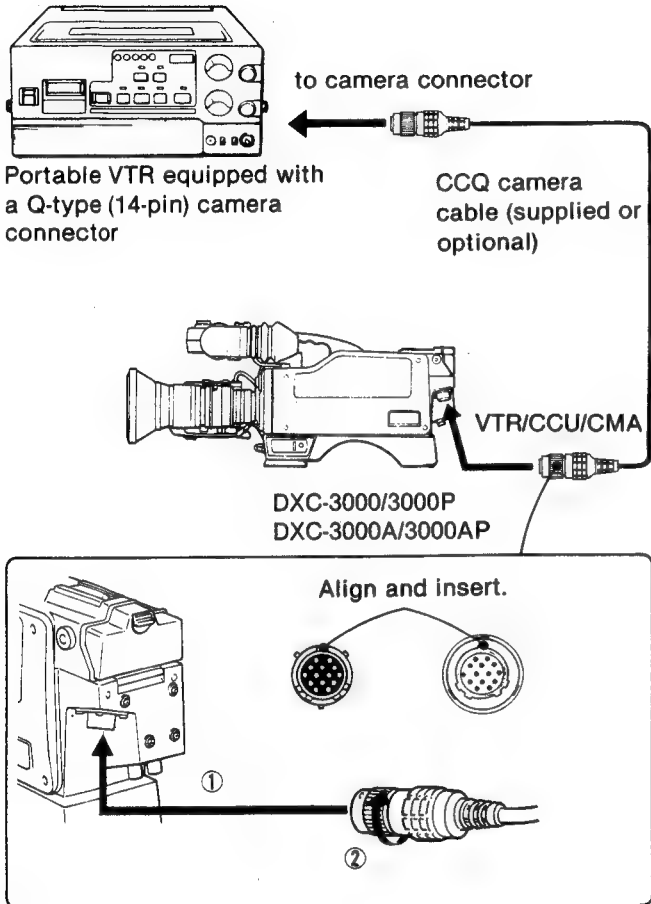
When the battery is nearly exhausted, the warning "BATT: EMPTY?" appears on the viewfinder screen. If you continue to use the battery after the "BATT: EMPTY?" warning has appeared, the BATT indicator of the viewfinder also lights up to indicate that the battery must be replaced immediately.

#### Battery charging

**Recharge the NP-1A battery pack before each use,** using the BC-1WA battery charger. It takes about 60 minutes at the normal temperature. For details on recharging, refer to the battery charger's instruction manual.

## POWER FROM THE VTR/CCU/CMA CONNECTOR

### Power from the portable VTR



### Notes

- When the portable VTR is operated from rechargeable battery packs, the continuous operating time of the camera and portable VTR is about 80 minutes at normal temperatures (when the VO-6800/6800PS portable videocassette recorder and two NP-1A battery packs are used). The life of the batteries installed in the portable VTR is indicated by the BATT indicator of the viewfinder. (Refer to page 1-25.)
- Refer to the VTR's instruction manual for information on the power supply to the VTR.

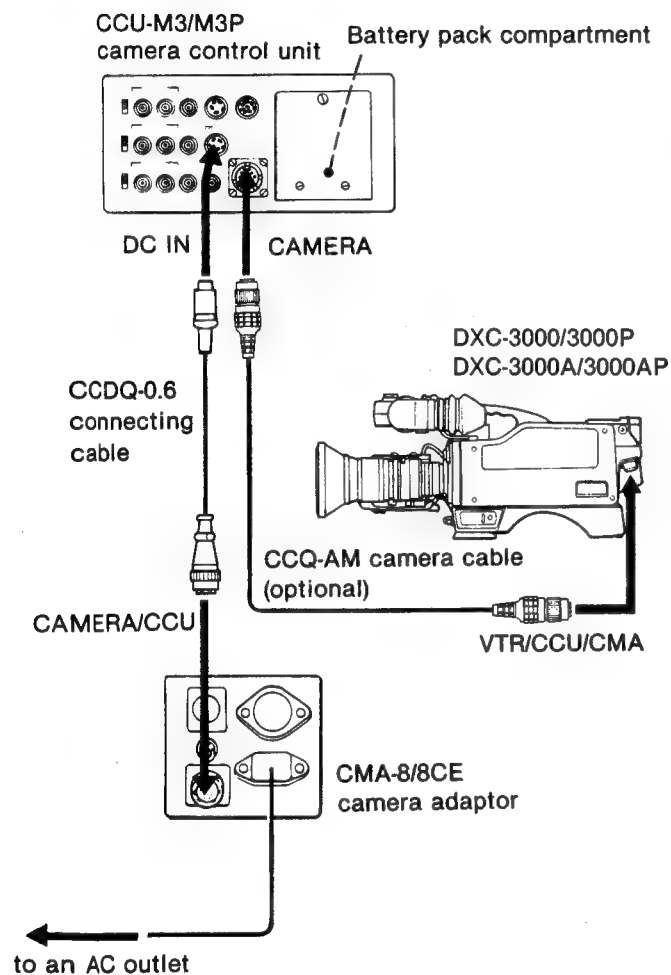
### Caution

- Before operating the camera, make sure that the power supplied from the VTR to the camera is sufficient. If the power supply capacity of the VTR is not sufficient, the camera must be powered independently.
- When a portable VTR equipped with a K-type (14-pin) camera connector is used, the camera must be powered independently, because power is not supplied through the CCQK cable.

### Power from the CCU-M3/M3P camera control unit

When the CCU is powered by the battery pack, the life of the battery pack installed in the CCU is indicated by the BATT indicator of the viewfinder.

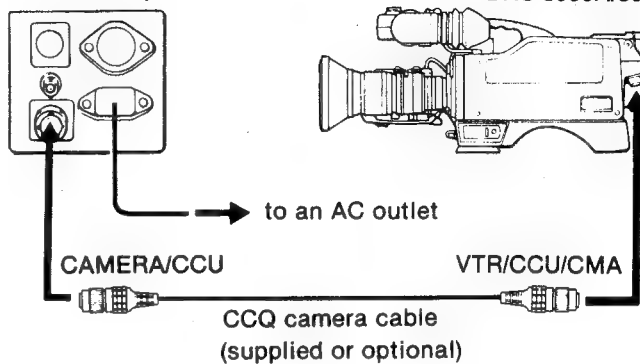
For details on the power sources for the CCU, refer to the CCU's instruction manual.



### Power from the camera adaptor

CMA-8/8CE  
camera adaptor

DXC-3000/3000P  
DXC-3000A/3000AP

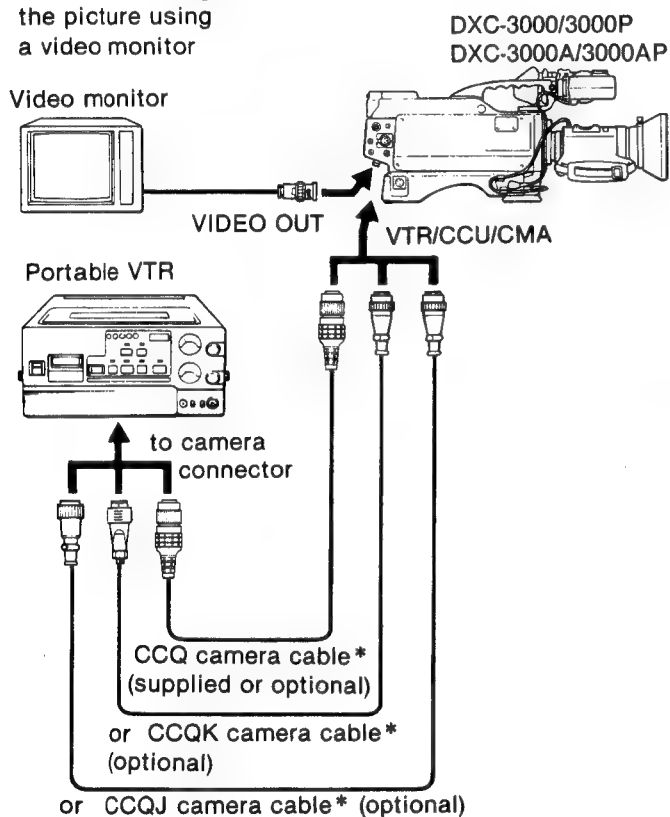


## CONNECTIONS

Before making connections, make sure that the power switches of the camera and other equipment are turned off.

## CONNECTION WITH A PORTABLE VTR

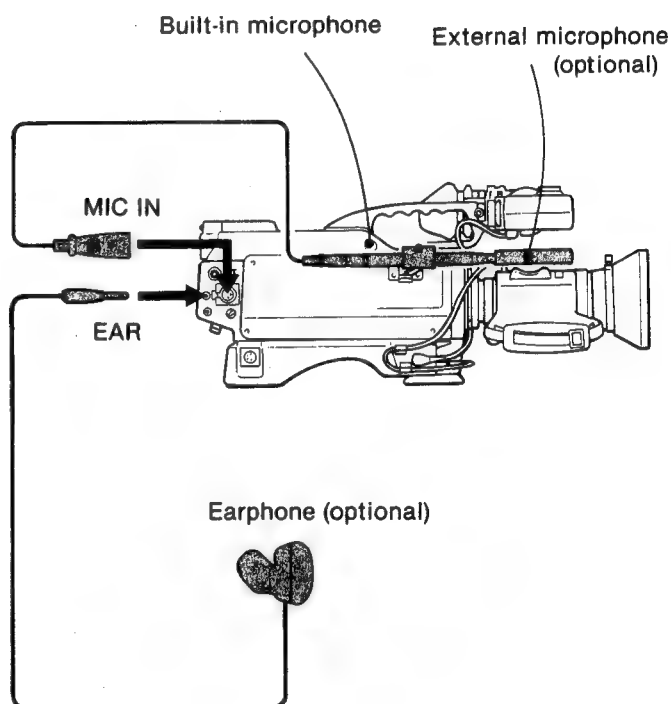
When monitoring the picture using a video monitor



**\*The camera cable can be extended up to 10 meters (33 feet) using a CCQ camera cable.**

### Connection for simultaneous sound recording

To avoid recording noise made while handling the camera, connect an external microphone to the MIC IN connector. The built-in microphone will be automatically shut off.

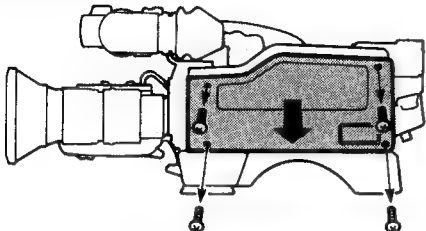




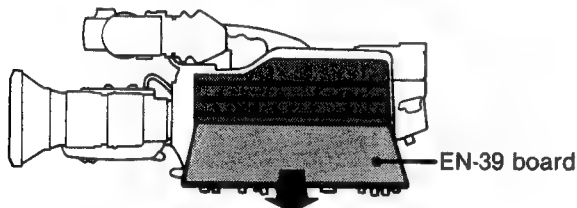
## CONNECTION WITH AN S-VHS FORMAT PORTABLE VTR

Change the setting of the switch on the board.

- 1 Remove the panel.

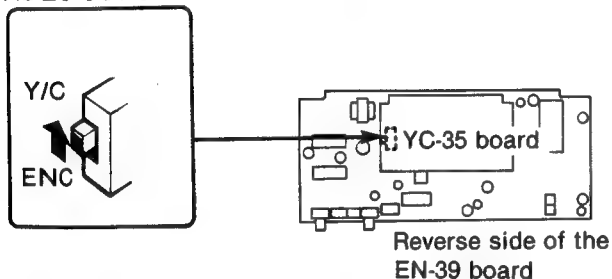


- 2 Take out the EN-39 board (second from the bottom).



- 3 Turn over the EN-39 board and set the VIDEO OUT switch located on the YC-35 board to Y/C.

### VIDEO OUT switch



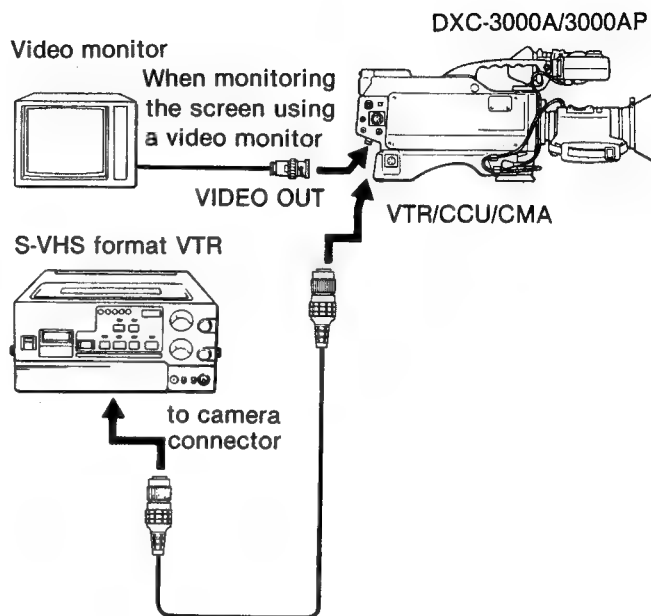
- 4 Mount the board as before and attach the panel.

The video signal output to CCQ camera cable is now the Y/C separate signal.

- The video signal output to VIDEO OUT connector is still the usual composite video signal.

When using a VTR which records with a composite video signal next time, change the setting of the VIDEO OUT switch to ENC.

## Connection

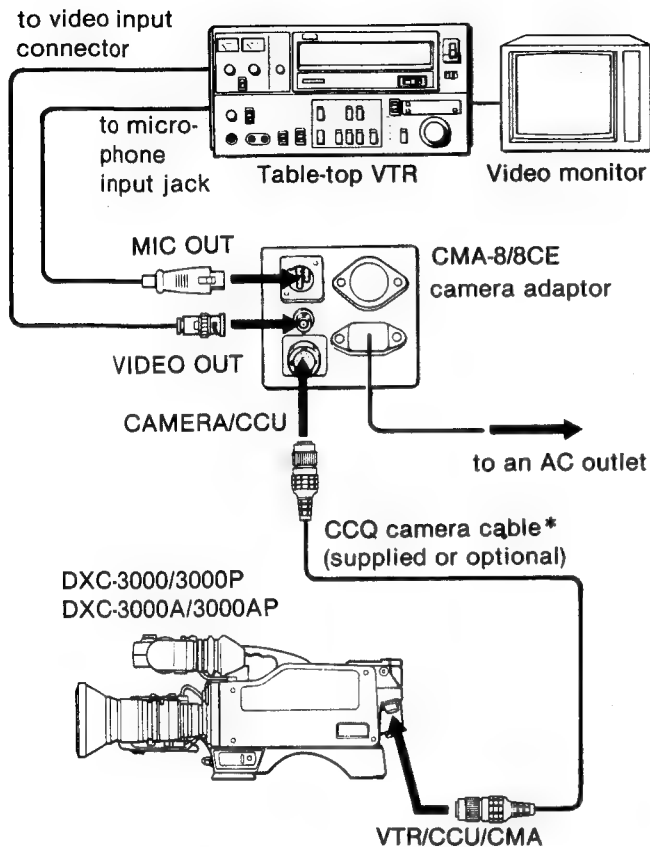


CCQ-BRS camera cable\*  
(supplied or optional)

\*The camera cable can be extended up to 10 meters (33 feet).

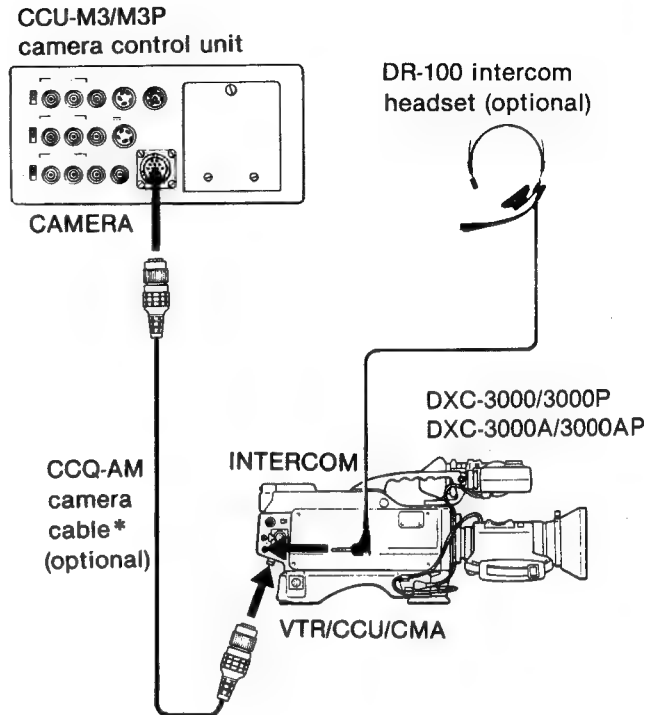
- Picture monitoring of the Y/C separate signal is possible if the monitor is equipped with the S video input jacks. Connect the VTR and the S video input jacks of the monitor. In this case, connection between the VIDEO OUT jack of the camera and the monitor is unnecessary.
- Superimposed title characters do not appear on the screen of the Y/C separate signal output to CCQ-BRS camera cable. Title characters are seen on the viewfinder screen or on the monitor connected to the VIDEO OUT jack of the camera.

## CONNECTION WITH A TABLE-TOP VTR



\* The camera cable can be extended up to 30 meters (99 feet) using a CCQ camera cable.

## CONNECTION WITH THE CCU-M3/M3P CAMERA CONTROL UNIT



\*The camera cable can be extended up to 100 meters (330 feet) using a CCQ-AM camera cable.

### Notes on operation with the CCU-M3/M3P

- When the camera is connected to the CCU-M3/M3P camera control unit, set the selector and the switch as follows:
  - VTR selector: 1
- When the camera is connected to the CCU, the following switches will not operate: GAIN selector, BARS/WB selector, H PHASE control, SC PHASE control and SC phase selector.
- When the CCU's W/B BALANCE selector is set to PRESET or MANUAL, it adjusts the white balance and takes priority over the camera. If the W/B BALANCE selector is set to AUTO, the white balance can be adjusted by either the camera or the CCU. Automatic black balance adjustment is performed by setting the AUTO W/B BALANCE switch of the camera to BLK, irrespective of the position of the W/B BALANCE selector of the CCU.
- The MIC IN connector of the camera cannot be used as an external microphone input. Connect the microphone directly to or through a mixing console, etc., to the VTR.

## OPERATING CONDITIONS AND FUNCTIONS OF THE CONNECTED VTR

VTR selector	Microphone level	Connected VTR	Remote control of VTR start/stop	REC Indicator		BATT alarm indication	Audio monitor (on the camera)	Picture shown on the viewfinder		Cable for connection n: cable length	Power supply from VTR to camera (See note 1.)	AC power adaptor for VTR
				REC indication	VTR alarm			During recording	During play-back			
1	-60 dB (See note 4.)	VO-6800 (NTSC) VO-6800PS (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	CMA-8 (NTSC) CMA-8CE (PAL)
		VO-4800 (NTSC) VO-4800PS (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	AC-340B (NTSC) AC-340CE (PAL)
		BVU-50 (NTSC) BVU-50P (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	No	CCQ-nAR	Yes	AC-500 (NTSC) AC-500CE (PAL)
		BVU-110 (NTSC) BVU-110P (PAL)	Yes	Yes	Yes	Yes	Yes	Yes Camera	Yes VTR	CCQ-nAR	Yes	AC-500 (NTSC) AC-500CE (PAL)
		SLO-340 (NTSC)	Yes	Yes	No	No	Yes (See note 2.)	Yes Camera (See note 3.)	Yes VTR	CCQJ-2	Yes	
2	-20 dB	SL-2000 (NTSC) SL-F1E (PAL)	Yes	Yes	Yes	No	Yes	Yes Camera	Yes VTR	CCQK-2	No	AC-220 (NTSC) AC-F1E (PAL)
3	-20 dB	HR-C3 (JVC, NTSC) HR-2200 (JVC, PAL)	Yes	Yes	No	No	Yes	Yes Camera	Yes VTR	CCQJ-2	No	
4	-20 dB	PV-5000 (Panasonic, NTSC) NV-9400 (Panasonic, PAL)	Yes	Yes	No	No	No	Yes Camera	Yes VTR	CCQJ-2	No	

### Notes

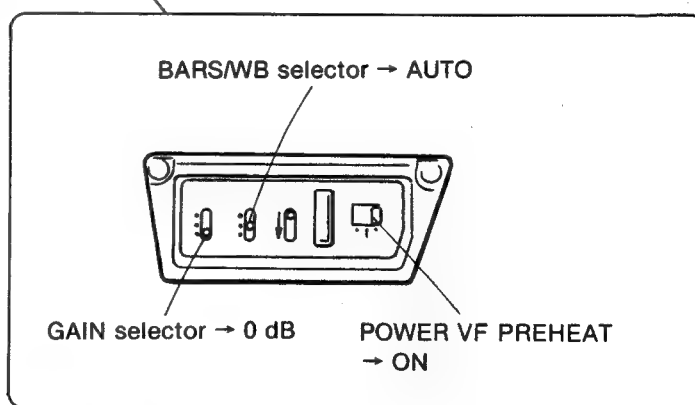
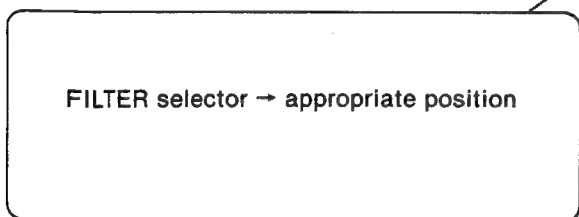
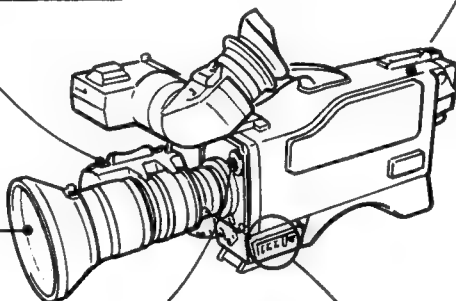
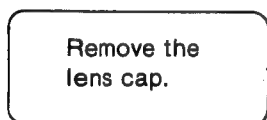
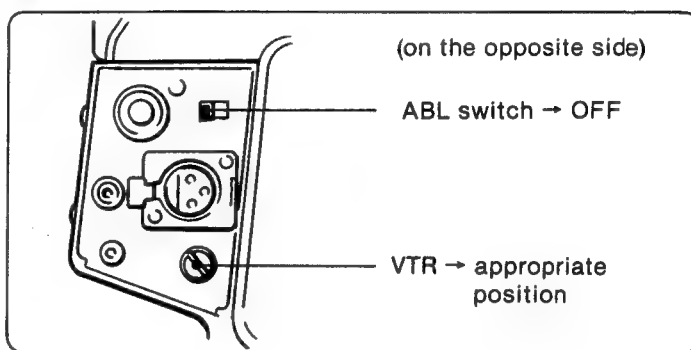
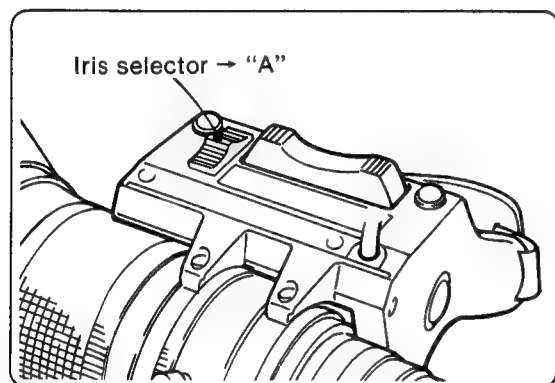
- For VTRs with "No" in the column "Power Supply from VTR to Camera", the power supply from the VTR is insufficient to operate a camera. Therefore, the independent power source must be provided for the camera. If the camera is operated without being powered independently, heat will build up in the VTR or AC power adaptor, and the protective circuit will activate. Consequently, the VTR or AC power adaptor will not operate properly.
- The audio can be monitored when the NP-1 built into the camera is used.
- The VTR picture is monitored in the viewfinder when the NP-1 built into the camera is used.
- When the VO-6800/6800PS portable VTR is connected to the camera, the VTR's -20 dB/-60dB camera microphone input level selector is set to -60 dB.

If the operating conditions of the VTR are different from those shown above, the VTR might not operate normally. If you use a VTR other than those shown above, for which the VTR selector must be set to "3" or "4", check the signal levels and other operating conditions.

## ADJUSTMENTS

### PREPARATION

Check to be sure that the connections are made correctly, and set the switches as shown.



Point the camera at the object. While zooming in or out, turn the focus ring to focus the picture.

# **FILTER SELECTION**

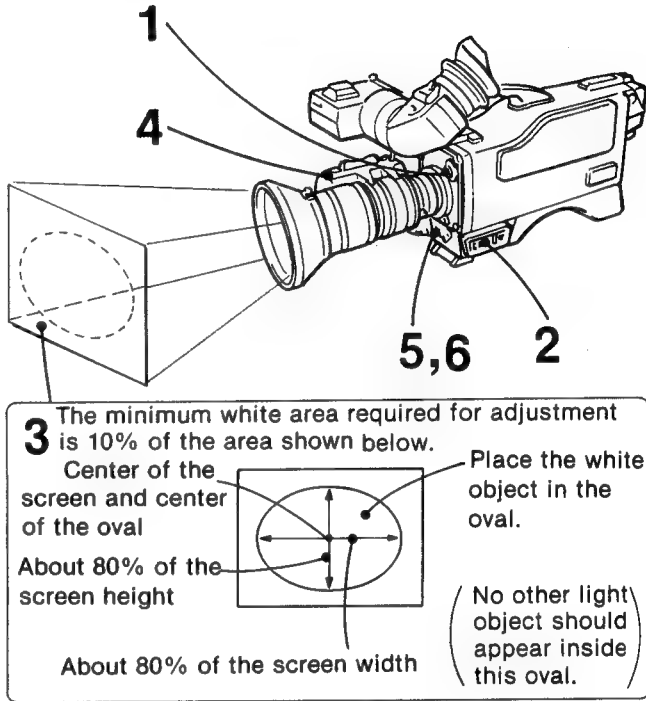
The color temperature changes according to lighting conditions. To compensate this, use the color temperature conversion filter indicated in the table below.

Filter number	Lighting conditions
1	Iodine lamp, sunrise, sunset
2	Bright outdoor
3	Cloudy, rainy

If the selected filter is not suitable for the lighting conditions, a warning such as “:LOW LIGHT” will be shown on the viewfinder screen. For details on the warning, refer to “Warning Indicators and Character Display” on page 1-25.

# **WHITE BALANCE AND BLACK BALANCE ADJUSTMENTS**

Proceed with the following white balance and black balance adjustments in order to obtain picture clarity and lifelike color reproduction.



- 1 Set the FILTER selector properly according to the lighting conditions.
- 2 Set the BARS/WB selector to AUTO.
- 3 Zoom up on a white object using the same lighting conditions as those under which the recording will be made.
- 4 Set the lens iris selector to “A”.
- 5 Press the AUTO W/B BALANCE switch toward BLK, and release it.  
“BLK.:OP” will appear on the viewfinder screen during the automatic black balance adjustment. After the adjustment is completed, “BLK.:OK” will be displayed for a few seconds.
- 6 Press the AUTO W/B BALANCE switch toward WHT, and release it.  
“WHT.:OP” will appear on the screen during the automatic white balance adjustment. After the adjustment is completed “WHT.:OK” will be displayed for a few seconds.



**Note**

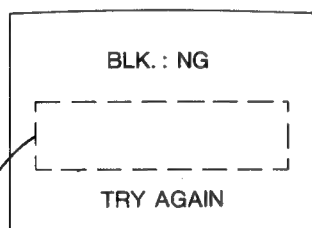
Readjustments of the white balance and black balance are necessary under the following conditions.

**White balance:**

- Each time the lighting conditions are changed
- If the “:MEMORY NG” is displayed on the viewfinder screen, indicating the previous white balance value is no longer retained in the memory.

**Black balance.** If the “:MEMORY NG” is displayed on the viewfinder screen, indicating that the previous black balance value is no longer retained in the memory.

**If the automatic black balance adjustment function does not work normally,** the following indications will appear on the viewfinder screen.



**Cause**

**:LENS CLOSE?**

**Cause:** The lens iris did not close automatically during black balance adjustment.

**Check:**

- The lens function
- The lens connection

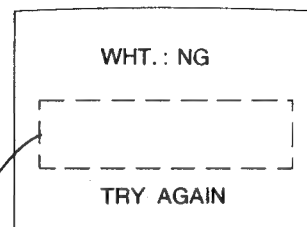
**:CB SW  
MISS TOUCH?**

**Cause:** The BARS/WB selector is set to BARS during the black balance adjustment.

**Check:** The BARS/WB selector. Is it set to AUTO?

Try to make the black balance adjustment again after eliminating the problems described above.

**If the automatic white balance adjustment function does not work normally,** the following indications will appear on the viewfinder screen.



**Cause**

**:C.TEMP.LOW  
CHG.FILTER**

or

**:C.TEMP.HI  
CHG.FILTER**

**Cause:** An inappropriate color temperature conversion filter was used.

**Check:** The filter type

**:????**

**Cause:**

- A white object was not used to make the adjustment.
- The adjustment was made with a very bright object inside the minimum white area required for white balance adjustment.

**Check:** The white pattern or object, and refer to Step 3 of the “White Balance and Black Balance Adjustments”.

**:LOW LIGHT**

**Cause:** The light is insufficient.

**Check:**

- The lighting. If necessary, increase it.
- The video output level. If necessary, raise it using the GAIN selector.

Try to make the white balance adjustment again after eliminating the problems described above.

#### **Memorized white balance and black balance values**

In the DXC-3000/3000P/3000A/3000AP a built-in memory stores the adjusted white balance and black balance values. The memorized values will be retained for about 12 hours after the power is turned off without any further power supply to the camera or until the adjustments are made once again. If the memorized values are erased, "MEMORY NG" will be displayed on the viewfinder screen next time the camera power is turned on. If this happens, adjust the white balance and black balance.

#### **To start recording immediately without white balance adjustment**

Set the BARS/WB selector to 3,200° K to obtain the white balance value preset at the factory.

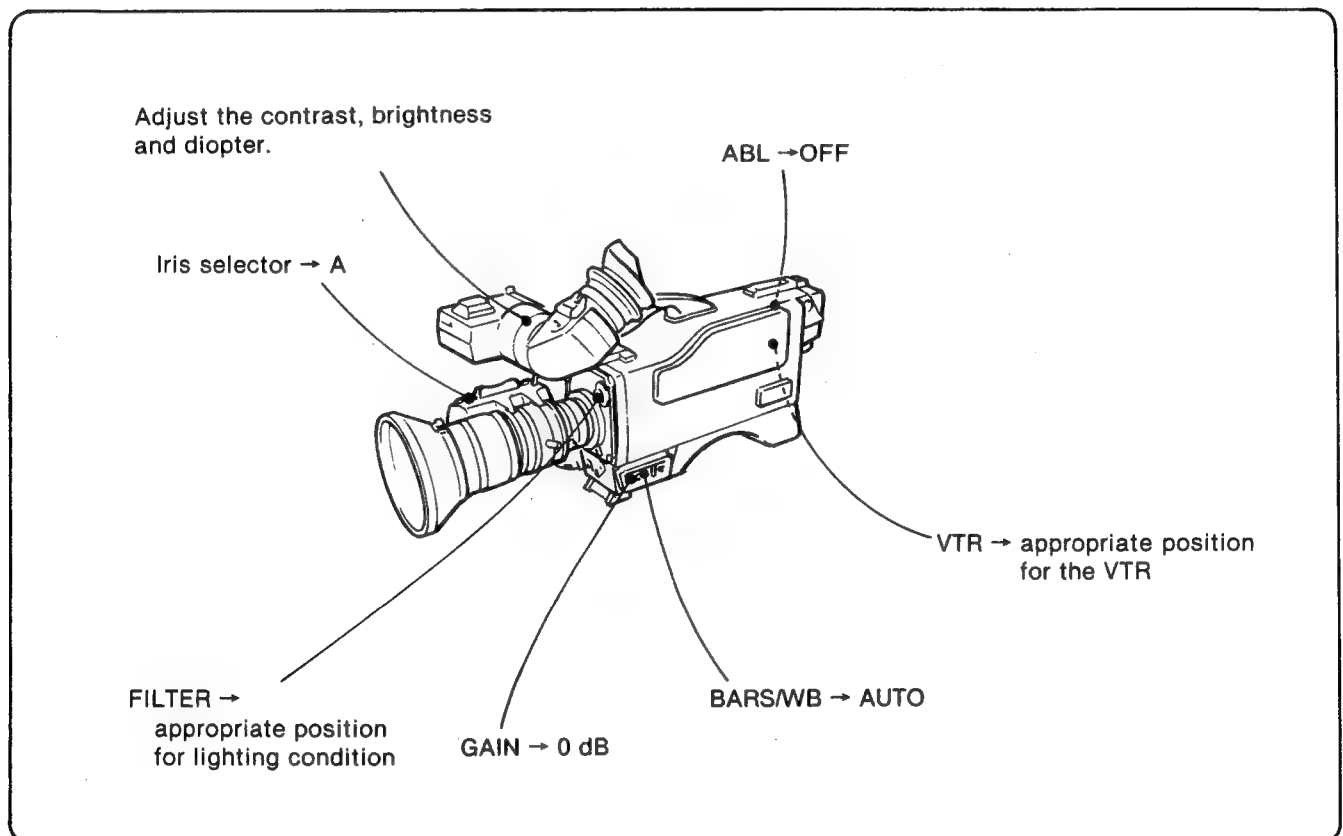
#### **BLACK SETTING**

When the AUTO W/B BALANCE switch is set to BLK, the black level drift (with respect to the reference black level) of each channel (R, G, B) is automatically adjusted, together with the black balance.

## OPERATION

## PREPARATION

Before operation, set the switches as follows.



## RECORDING WITH A PORTABLE VTR (connected with a CCQ, CCQK or CCQJ camera cable)

- 1 Turn the camera and the connected equipment on.
- 2 Adjust the black balance and white balance. For details, refer to "White Balance and Black Balance Adjustments" on page 1-18.
- 3 Point the camera at an object and adjust the lens.  
—Iris  
—Zoom  
—Focus
- 4 To start recording, press the VTR START/RETURN VIDEO button on the camera or the VTR button on the lens. The REC/TALLY indicator in the viewfinder will light during recording.

To stop recording, press the VTR START/RETURN VIDEO button or the VTR button again.

### Note

For a brief period after the camera has been turned on, the BATT indicator of the viewfinder may light and random characters may be displayed on the viewfinder screen. (This is not a malfunction.)

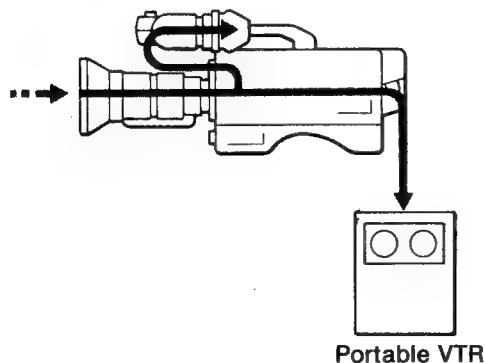
### Monitoring the sound

The sound can be monitored during both recording and playback through an earphone connected to the camera's EAR jack.

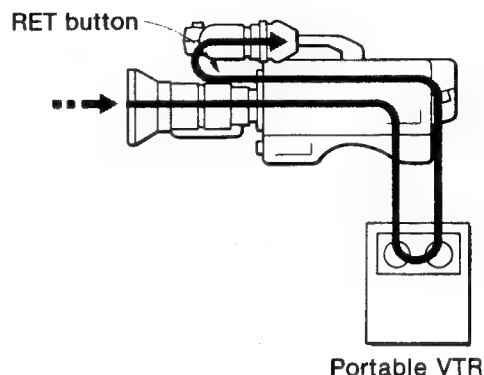
### Monitoring the picture

The following three types of pictures can be seen on the viewfinder screen when the camera and the VTR are connected with the CCQ camera cable. (For details on the pictures which can be shown on the viewfinder screen, refer to page 1-13.)

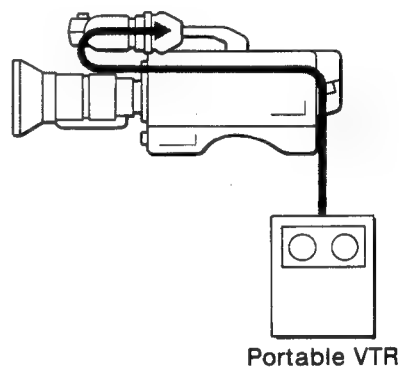
#### Picture picked up by the camera (during recording)



#### E-E mode picture from the VTR (return video) when the RET button on the lens is pressed (during recording)



#### Playback picture (during playback)



### Note

While the playback picture from the VTR is displayed on the viewfinder screen, a part of the camera's video signals, such as a sync signal, may be mixed with the playback picture so that streaks of noise roll vertically or horizontally.

## OUTPUT LEVEL ADJUSTMENT

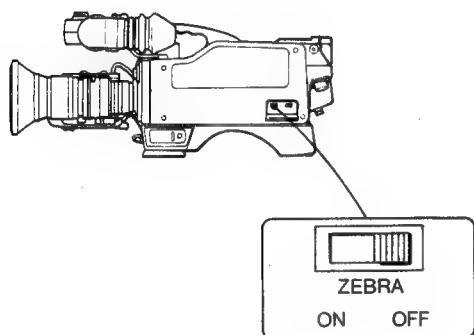
If a clear picture cannot be obtained because of insufficient lighting, set the GAIN selector to the appropriate position. Normally set the GAIN selector to "0".

The video output level can be raised by 9 dB by setting the GAIN selector to "9" and by 18 dB by setting the selector to "18".

## CHECKING THE VIDEO LEVEL

When the ZEBRA switch is set to ON, a zebra pattern will appear on the part of the viewfinder screen when the video output level of the picture is 70 to 80 IRE (for NTSC) or 490 to 560 mV (for PAL). You can use this zebra pattern as a reference when adjusting the iris manually. Adjust the iris so that the zebra pattern appears over the subject being shot (for example, the face of a back-lit person).

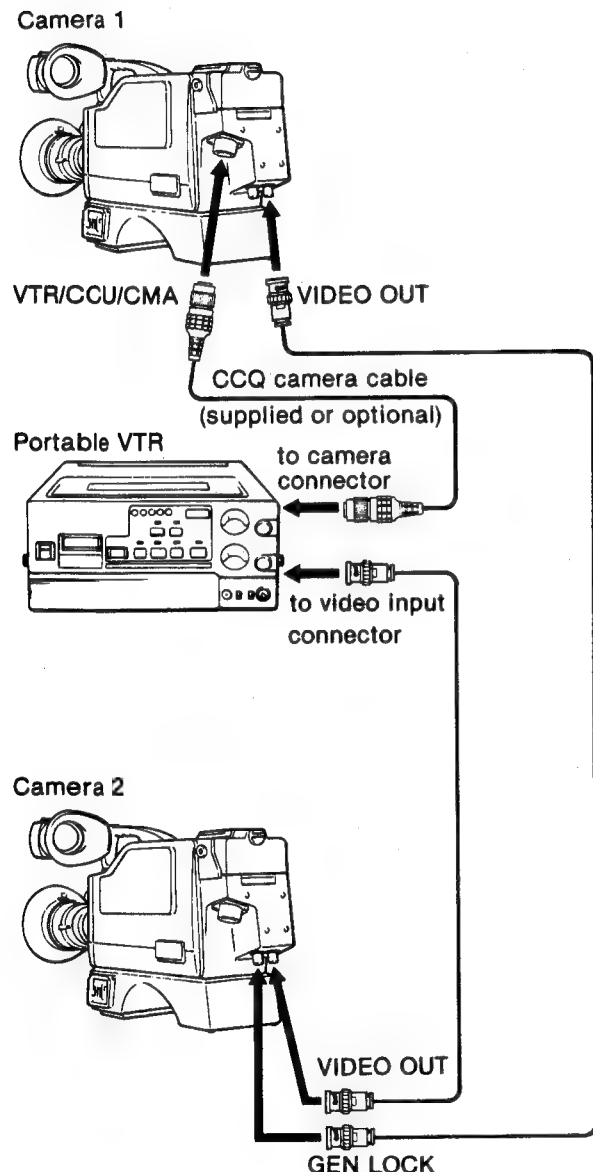
If it is not necessary to use the zebra pattern to adjust the iris, set the ZEBRA switch to OFF.



## USE OF THE GEN LOCK CONNECTOR

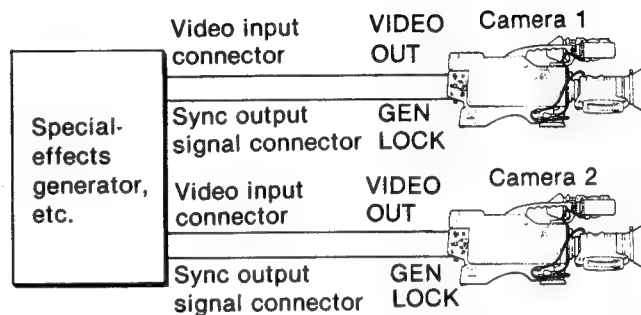
When the BS or VBS signal is connected to the GEN LOCK connector, the camera synchronizes with the connected signal. Use this connector when two or more cameras are used without a CCU.

### Example 1



Camera 2 is synchronized with Camera 1.

### Example 2



Camera 1 and Camera 2 are synchronized with a special-effects generator.

**Adjustment of the picture tone for two or more cameras**  
When two or more cameras are used simultaneously in connection with a special-effects generator, etc., supply each camera with the same reference signal, and adjust each camera to obtain the same picture tone. Adjust the SC (subcarrier) phase and the H (horizontal) phase following the procedures described below.

#### Subcarrier phase adjustment

Adjust the subcarrier phase roughly with the SC phase selector, and make fine adjustment using the SC PHASE control. Use a vectorscope to make the adjustment easily.

#### Horizontal phase adjustment

Adjust the horizontal phase with the H PHASE control. Use a waveform monitor or an oscilloscope to make the adjustment easily.

## RECORDING WITH A TABLE-TOP VTR

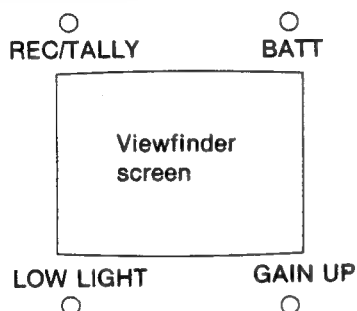
The operating procedure is almost the same as when recording with a portable VTR except for the following:

- The VTR START/RETURN VIDEO button on the camera and the VTR button on the lens do not function. Recording must be started and stopped with the function buttons on the VTR.
- The REC/TALLY indicator in the viewfinder does not function.
- The E-E mode picture (return video) and the playback picture cannot be monitored on the viewfinder screen.

## WARNING INDICATORS AND CHARACTER DISPLAY

### WARNING INDICATORS ON THE VIEWFINDER

The following indications show the status of the connected camera, VTR or CCU.  
(Some VTRs might have no indication function by blinking or by lighting up.)



Indicator	When operant	Blinks	Lights up
REC/TALLY	While recording, using a VTR connected with a CCQ cable	Until the VTR is put on the standby mode	During recording
	During use of a VTR (equipped with a warning system), which is connected with a CCQ or a CC-QK cable	While the VTR is malfunctioning	—
	During use of the CCU-M3/M3P	—	When a tally signal is transmitted from a video switcher, etc.
BATT	• When a camera powered by a built-in NP-1A is used	—	The battery power is weak.
	• When a VTR is connected to the camera	The battery power is weak.	When a connected equipment is continuously operated after blinking
	• When a CCU is connected to the camera*		
LOW LIGHT	Any time	—	When the lighting is insufficient
GAIN UP	Any time	—	When the GAIN selector is set to 9 dB or 18 dB

\* The indicator's blinking speed denotes the following:

Slow: The battery is weak.

Fast: The CCU's switches and controls are being used.

### WARNING INDICATIONS BY THE CHARACTER DISPLAY

The following indications appear on the viewfinder screen.

#### :LOW LIGHT

Meaning: The lighting is insufficient.

Check:

- The lighting. Increase it, if necessary.
- The iris. Open the iris manually or activate the auto iris function.
- The filter. Select an appropriate filter.
- The GAIN selector. Set it to 9 dB or 18 dB.

It is possible to switch the "LOW LIGHT" indication on or off.

On: Press the UP/ON button when the character display is on the "Operational Status of the Camera" mode.

Off: Press the DOWN/OFF button when the character display is on the "Operational Status of the Camera" mode. The indication does not appear on the viewfinder screen even if the lighting is insufficient.

#### :MEMORY NG

Meaning: The white balance and black balance adjusted values are no longer retained in the memory.

Check: The white balance and black balance values. Reset them.

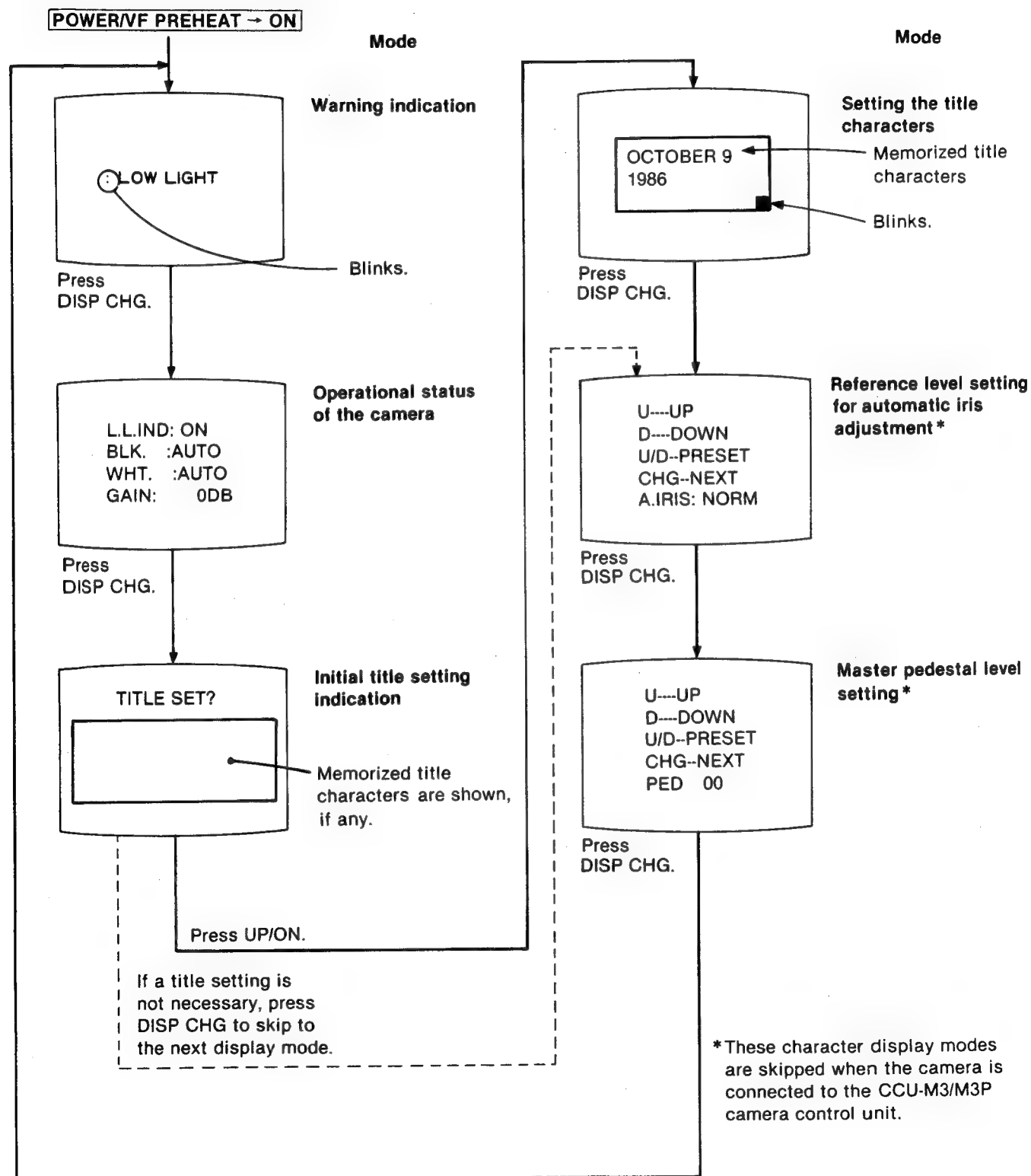
#### :BATT :EMPTY?

Meaning: The input voltage to the camera is less than about 11.0 V.

Check: The battery. Replace it with a fully charged one.  
If you continue recording with a weak battery, the quality of the recording will deteriorate.

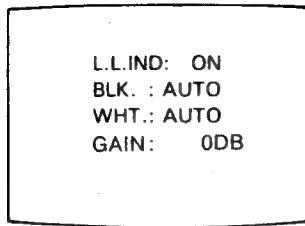
## CHARACTER DISPLAY ON THE VIEWFINDER

The following chart shows the character display mode sequence each time the DISP CHG is pressed.





## Operational status of the camera



**L.L. IND** (Setting the "LOW LIGHT" indication)

**ON:** "LOW LIGHT" is displayed.

**OFF:** "LOW LIGHT" is not displayed.

**BLK.** (Black balance adjustment mode)

**AUTO:** For automatic adjustment

**MANUAL:** For manual adjustment using the CCU-M3/M3P camera control unit

**WHT.** (White balance adjustment mode)

**AUTO:** For automatic adjustment

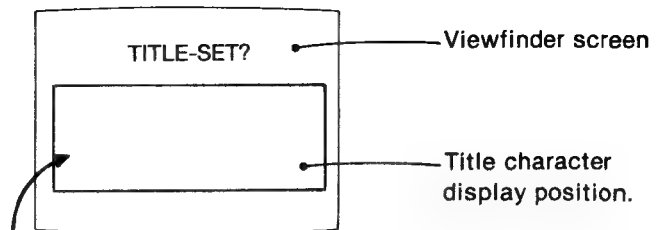
**PRESET:** For the factory preset value

**MANUAL:** For manual adjustment using the CCU-M3/M3P

**GAIN** (Setting the video output level)

0 dB, 9 dB or 18 dB.

## Initial title setting indication



If any characters are stored in the memory, they are displayed here.

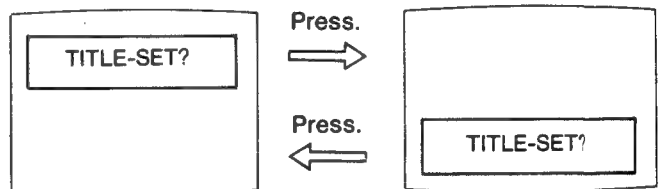
Perform the following procedures if necessary.

**To clear all the memorized title characters:**

Press the UP/ON button and the DOWN/OFF buttons simultaneously.

**To change the character display position:**

Press the DOWN/OFF button.



### Note

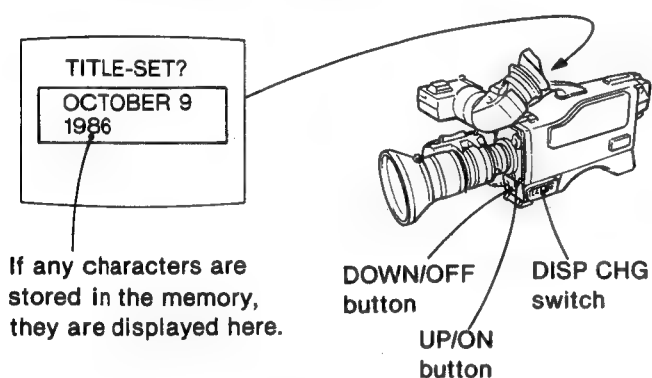
When the camera is used with a VO-6800/6800PS portable VTR, use only the lower character display area, because the VTR tape remaining time is shown in the upper character display area.

### Setting the title characters

This camera has a superimposition function which allows the simultaneous showing of the picture shot by the camera and the characters by the built-in character generator on the same screen. If a recording VTR or a monitor is connected to the camera, the superimposed picture can be recorded on the VTR or monitored on the monitor screen. Use the DISP CHG switch, UP/ON button, and DOWN/OFF button to set title characters.

#### Preparation

- 1 Press the DISP CHG switch until the following indication appears on the viewfinder screen.



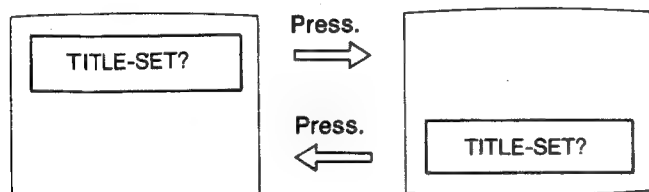
Perform the following procedures if necessary when the indications above are shown on the viewfinder screen.

#### To clear all the memorized title characters:

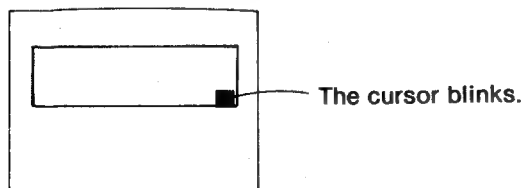
Press the UP/ON button and DOWN/OFF button simultaneously.

#### To change the position of the title characters:

Press the DOWN/OFF button.

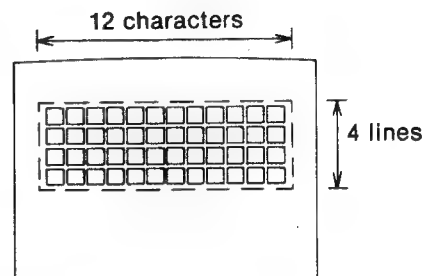


- 2 Press the UP/ON button to set title characters.



### Setting procedures

Set title characters one by one using the UP/ON button and DOWN/OFF button. Up to 12 characters can be displayed on one line, and up to 4 lines can be displayed.

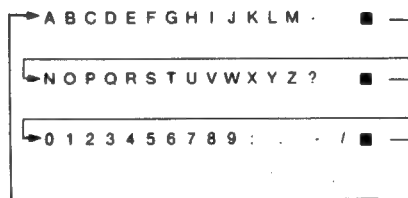


#### Selection of letters

Repeat pressing the UP/ON button until the desired character appears inside the cursor.

Every time the UP/ON button is pressed, the characters change in the following order.

#### Order of scanning



Goes back to "A".

#### Punctuation display

Point: "."  
Space: "■"  
Question mark: "?"  
Colon: ":"  
Period: "."  
Hyphen: "-"  
Slash: "/"

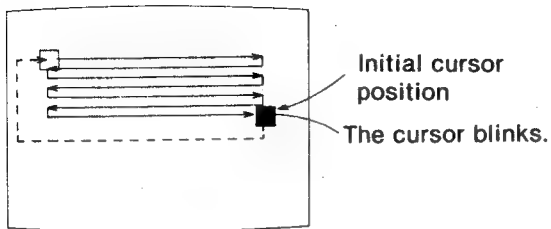
#### To change the characters in reverse alphabetical order:

Press the DOWN/OFF button with the UP/ON button pressed.

### Moving the cursor

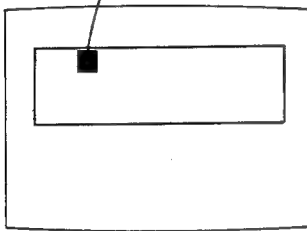
The cursor can be moved to the desired position by repeating the DOWN/OFF button. After the desired character appears, press the DOWN/OFF button, and the cursor moves one space to the right.

Movement of the cursor



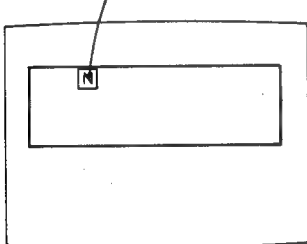
- 1 Move the cursor to the desired position by pressing the DOWN/OFF button.

The cursor blinks.



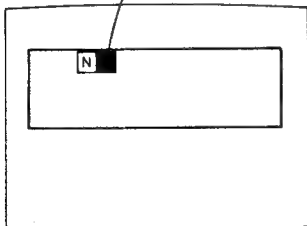
- 2 Select a character by pressing the UP/ON button.

The selected character blinks.



- 3 Press the DOWN/OFF button to set the selected character, and the cursor moves one space to the right.

The cursor blinks.



Set the title characters by repeating Step 1 through 3 shown above.

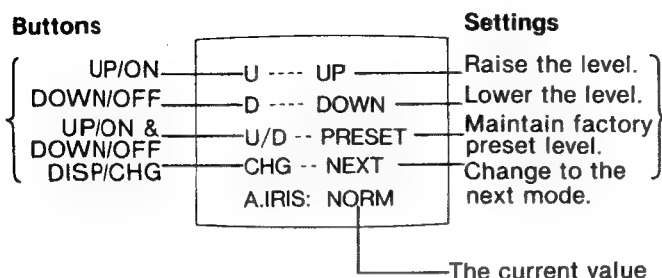
### Notes

- The AUTO W/B BALANCE switch can also be used for character setting instead of the UP/ON and DOWN/OFF buttons. To set the character position, set the switch to BLK (same function as the DOWN/OFF button), and to set the character, set the switch to WHT (same function as the UP/ON button).
- To replace a character which has been set with a new one  
Return the cursor to the character's position, select the desired character with the UP/ON button, and press the DOWN/OFF button. The characters must be changed one by one following procedure above.

### Memory of the title characters

The characters and their displayed positions are stored in the memory (about 12 hours) after the character display mode is cancelled or after the power is turned off.

## Setting the reference level for automatic iris adjustment



### Purpose

To adjust the video level of a back-lit subject so that it is not too dark.

### Adjustable range

From about -1.0 to +1.0 F stop in about 0.5 increments

### Operation

To raise the level: Press the UP/ON button.

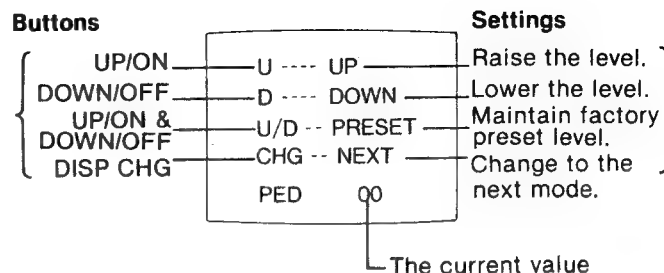
To lower the level: Press the DOWN/OFF button.

To reset to the normal level: Press the UP/ON and DOWN/OFF buttons simultaneously.

### Maintenance of the adjusted value

The adjusted iris value will be retained in the memory until the power is turned off. The next time the camera power is turned on, the iris value will return to the factory preset level.

## Setting the master pedestal level



### Purpose

Adjust to obtain a well contrasted picture while shooting outdoors.

### Adjustable range

From about -30% to +31% of the reference level (0.7 V as 100%) in about 1% increments.

### Operation

To raise the level: Press the UP/ON button. (If this button is pressed when the master pedestal level is +31%, "MAX" is displayed.)

To lower the level: Press the DOWN/OFF button. (If this button is pressed when the level is -30%, "MIN" is displayed.)

To reset to "00" (factory preset value): Press the UP/ON and the DOWN/OFF buttons simultaneously.

### Maintenance of the adjusted value

The master pedestal level is retained in the memory for about 12 hours after the power is turned off.

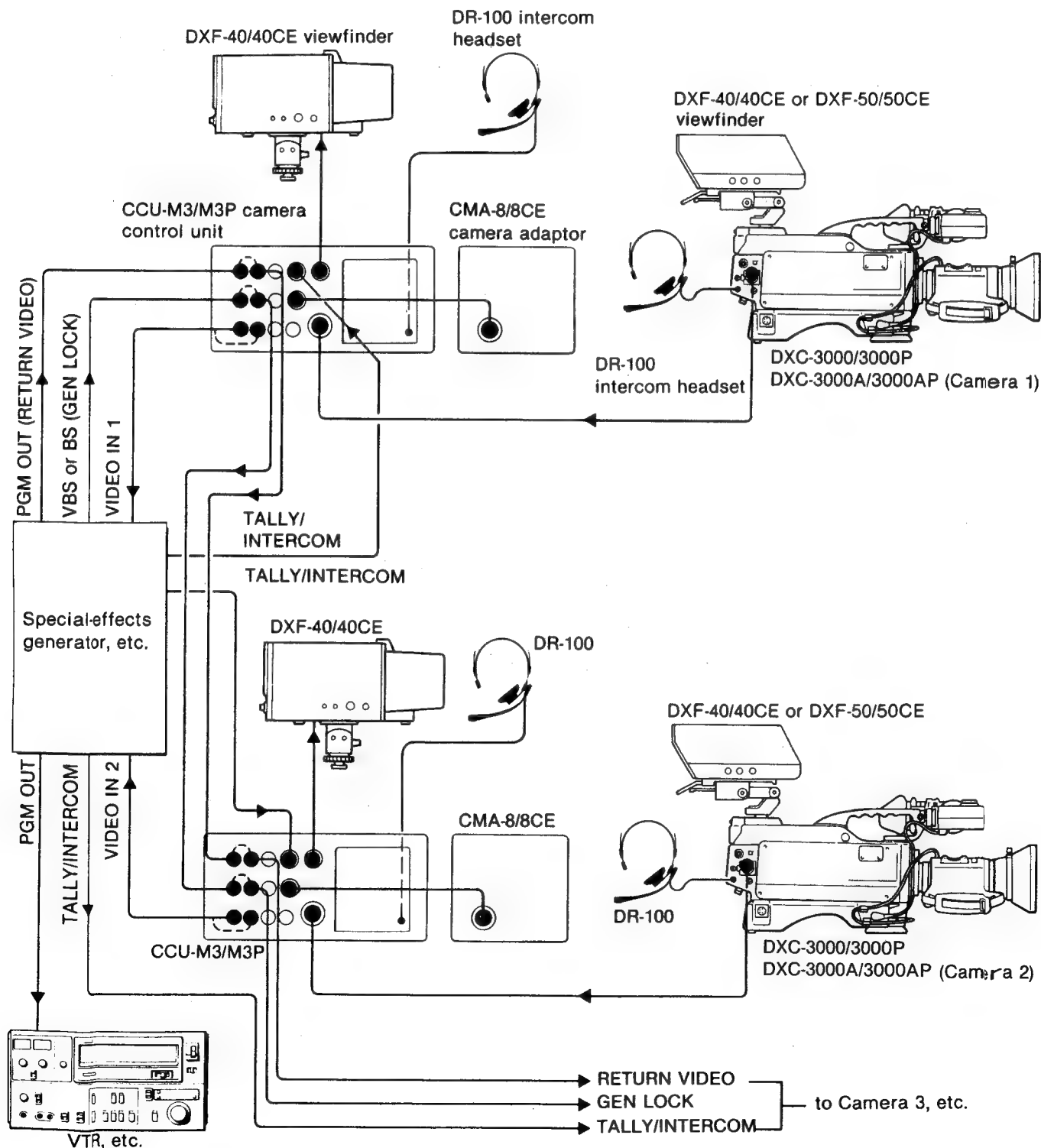
### Notes

- If the pedestal level set by the UP/ON and DOWN/OFF buttons is to be monitored on a waveform monitor, set the ABL switch to OFF. If the ABL switch is set to ON, the correct waveform cannot be monitored.
- When a CCU-M3/M3P camera control unit is connected to the camera, the auto iris reference level setting mode and the master pedestal level setting mode cannot be controlled by the camera because the CCU iris and the master pedestal values take priority over the camera settings.
- The CCU master pedestal level setting is stored in the camera's memory for about 12 hours after the CCU is disconnected from the camera.

## STUDIO USE

When using more than two cameras simultaneously in a video studio, a special-effects generator, such as the Sony SEG-2000A/2000AP, is necessary for wiping and switching, and a CCU-M3/M3P camera control unit for matching all the camera's picture quality and color.

### System example



## TIPS FOR SHOOTING AND EFFECTIVE CAMERA WORK

### RECORDING LIFE LIKE COLORS

If the camera is used without correct white balance adjustment, proper color reproduction cannot be obtained. Even in the same location, the color temperature will vary with the time of the day and the lighting conditions (sunlight, shade, ambient reflected light, etc.). Be sure to attach the filter appropriate to the color temperature of the lighting and adjust the white balance when the camera is moved to another location.

### LIGHTING

For optimum color recording, we recommend illuminating the object with two iodine lamps (500 watts, 3200°K) at a distance of 4 m (13 feet) to obtain suitable lighting conditions (i.e., an intensity of at least 1,500 lux, 150 footcandles). If the illumination is insufficient, the "LOW LIGHT" warning will be displayed on the viewfinder screen. If this occurs, the video output level must be raised manually or lighting must be increased. Lights should be arranged and their intensity set so that the object is illuminated evenly with sufficient brightness. When installing the lighting system, refer to the light distribution curve of the lamp used. Undesirable shadows may occur when a three-dimensional object is illuminated. The color of the shaded areas may be affected and appear as a different color. To reduce this effect, illuminate the object as uniformly as possible. The use of a light, pale-colored background, such as pale gray, is recommended.

### FOCUSING AND ZOOMING

Focusing is always more critical in the telephoto position.

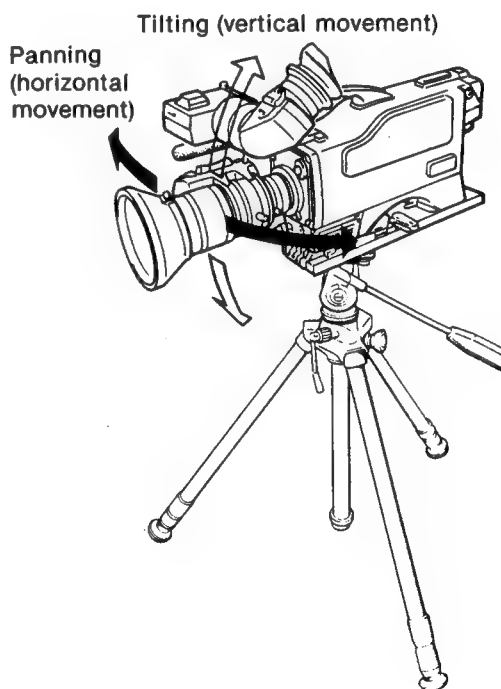
Therefore, if you start by accurately focusing for a telephoto shot, you are sure to be accurately focused when you zoom back to a more wide-angle shot. In the telephoto position, the "depth of focus" is very shallow, so only one point in the scene is likely to be in focus. Shooting a distant object means focusing over a wide range, but when shooting something close, you naturally only have to focus over a much narrower range. The narrower the angle of the lens, or in other words the more telephoto it becomes, the more pronounced camera shake will be. If you are taking a telephoto shot, be sure that the camera is held very still.

### PANNING AND TILTING

These techniques are used for "sweeping" the camera over landscapes, tall buildings, etc.

Hold the camera still for a moment just before you start to shoot and just after the shot has finished. Start shooting: turn the camera slowly around to the point where the shot will end. This type of slow horizontal sweep is called "panning".

Tilting occurs when the camera is swept vertically for shots of buildings, trees, and mountains and so on to achieve subtly different effects. If you are shooting a skyscraper and want to emphasize the height, start from the bottom and tilt up. If, on the other hand, you want to dramatize a person emerging from the front entrance, start at the top and tilt down. Tilting is generally more effective if you sweep the camera more quickly than you would when panning. You can either start from the top and work down or start at the bottom and work up.



## SPECIAL CHARACTERISTICS OF A CCD

### Smear phenomenon

This may appear when a very bright object is shot.



Light belt-like line  
(smear phenomenon)

A very bright object is shot.  
(Electric light, fluorescent lamp,  
sunlight, strong reflected light,  
etc.)

Video monitor screen

### Patterned noise

This may appear uniformly over the entire monitor screen when the camera is operated at high temperature.

### Wavy picture

This may appear when fine stripes, straight lines, etc., are shot. Their images monitored on the screen look wavy.

## OPTIONAL ACCESSORIES AND RECOMMENDED EQUIPMENT

Camera control unit: CCU-M3/M3P

Special-effects generator: SEG-2000A/2000AP, SEG-2550/2550P

Universal chroma keyer: CRK-2000/2000P

Wipe pattern extender: WEX-2000, WEX-2000P/PM

Portable videocassette recorder: VO-6800/6800PS

Electronic viewfinder (5-inch, B/W): DXF-50/50CE

Electronic viewfinder (4-inch, B/W): DXF-40/40CE

Electronic viewfinder (1.5-inch, B/W): DXF-3000/3000CE

Camera adaptor: CMA-8/8CE

Battery adaptor: DC-8

Battery pack: NP-1

Battery charger: BC-1WA

Battery shoe: CAC-21

Zoom lens: VCL-1012BY

Lens remote control unit: LO-23

Condenser microphone: C-74

Microphone holder: CAC-11

Microphone cable: EC-0.5C2

Intercom headset: DR-100

Extension board for adjustment of the camera: EB-3000

Camera cable with Q-type 14-pin and K-type 14-pin connectors: CCQK-2

Camera cable with Q-type 14-pin and J-type 10-pin connectors: CCQJ-2

Camera cable with Q-type 14-pin connector: CCQ-2AR, CCQ-5AR, CCQ-10AR, CCQ-25AR, CCQ-50AR

Camera cable with Q-type 14-pin connector: CCQ-10AM, CCQ-25AM, CCQ-50AM, CCQ-100AM

Camera tripod: VCT-12

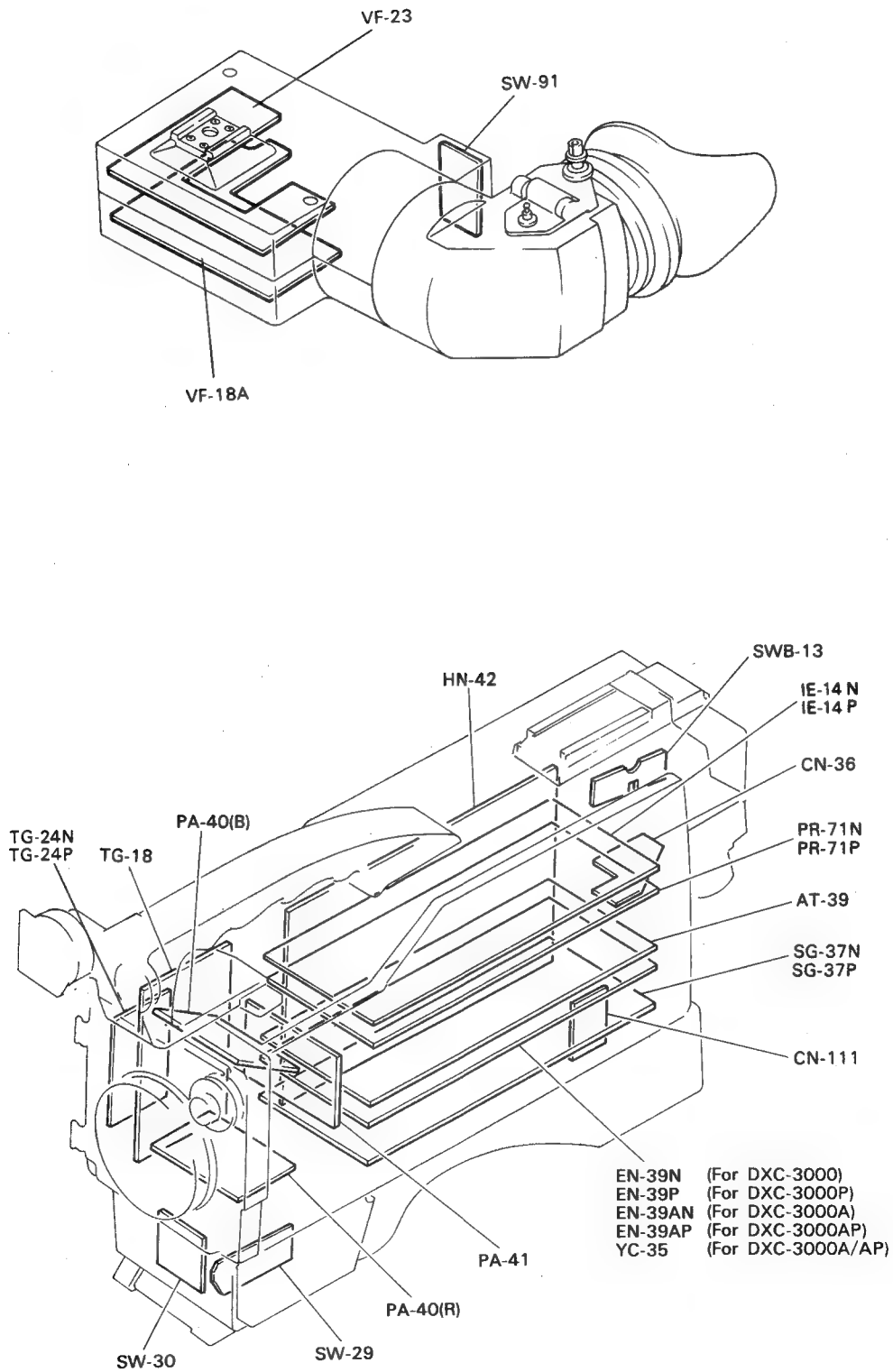
Rack mounting metal: RMM-1800

Carrying case: LC-3001

## SECTION 2

### SERVICE INFORMATION

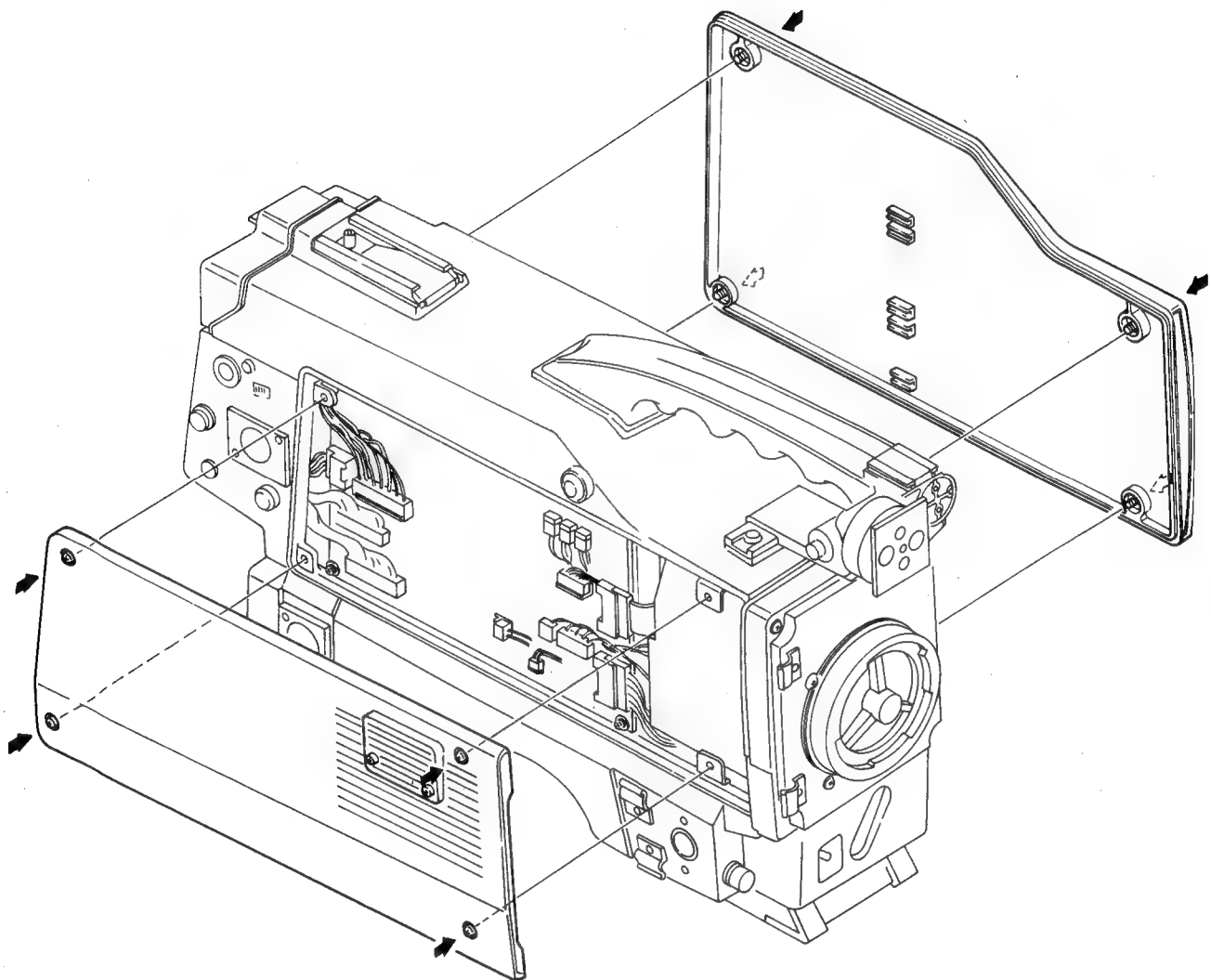
#### 2-1. BOARD LAYOUT





## 2-2. REMOVAL OF OUTER

Remove the right and left side covers by loosening each four screws.

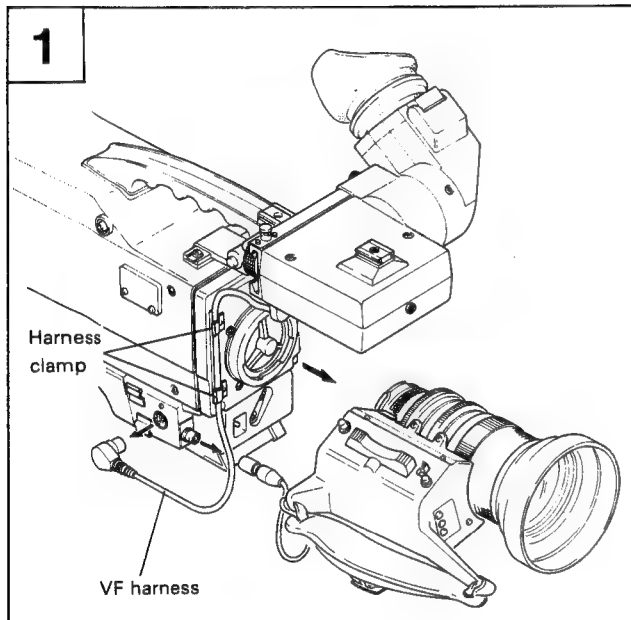


## 2-3. REPLACEMENT OF MAIN PARTS

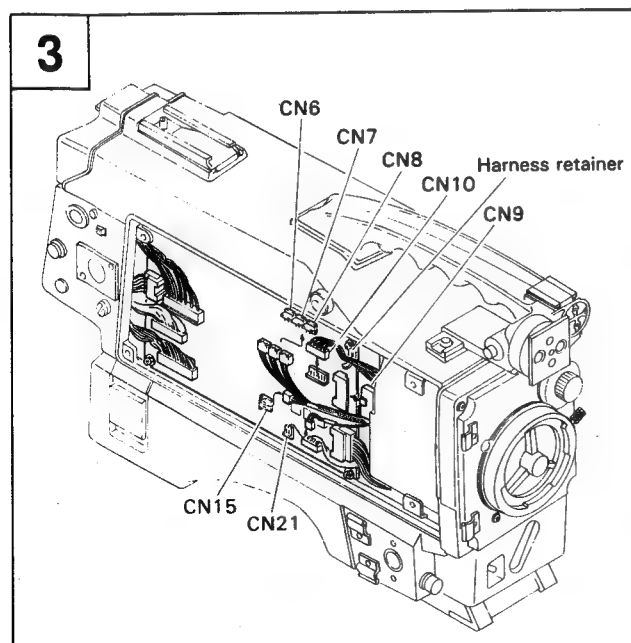
### 2-3-1. REPLACEMENT OF FRONT UNIT

When the CCD BLOCK is replaced, replace it with the front unit.

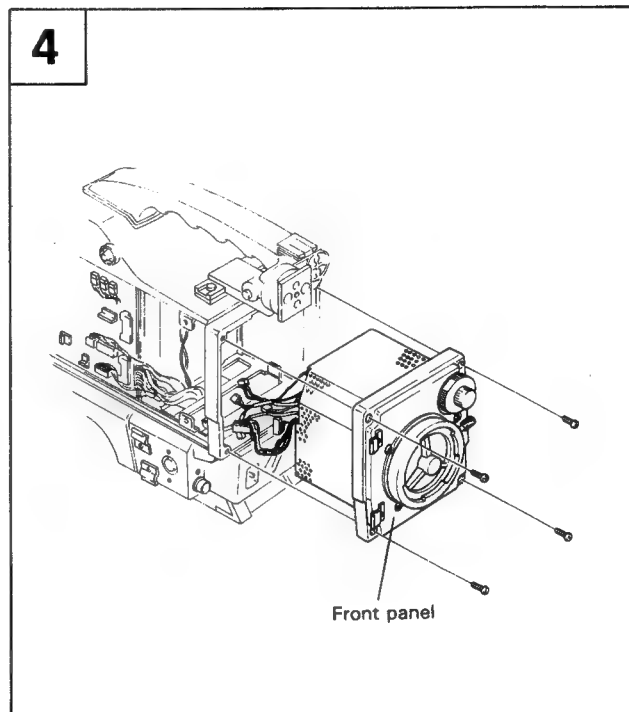
1. Remove the lens and remove the VF harness from the harness clamp.



2. Remove the left side panel, referring to REMOVAL OF OUTER.
3. Disconnect the CN6, CN7, CN8, CN9, CN10, CN15, CN21 from the HN-42 board. Straighten the harness retainer shown below and remove the harness.



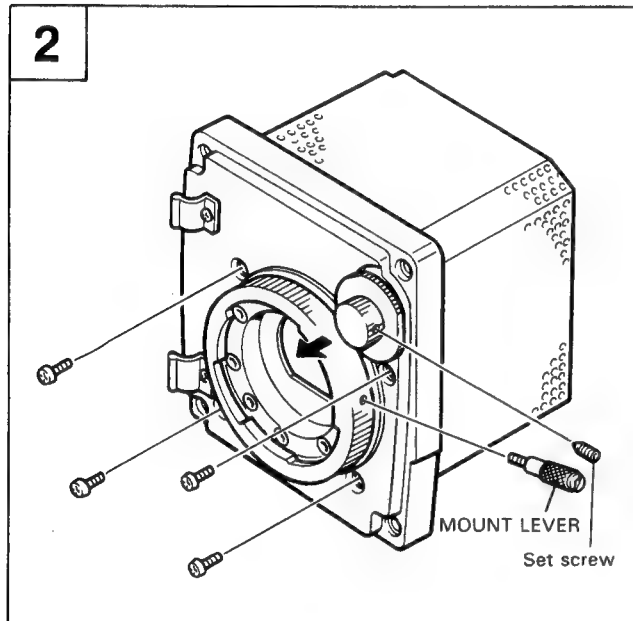
4. Remove the four screws located in the front panel and remove the front unit.



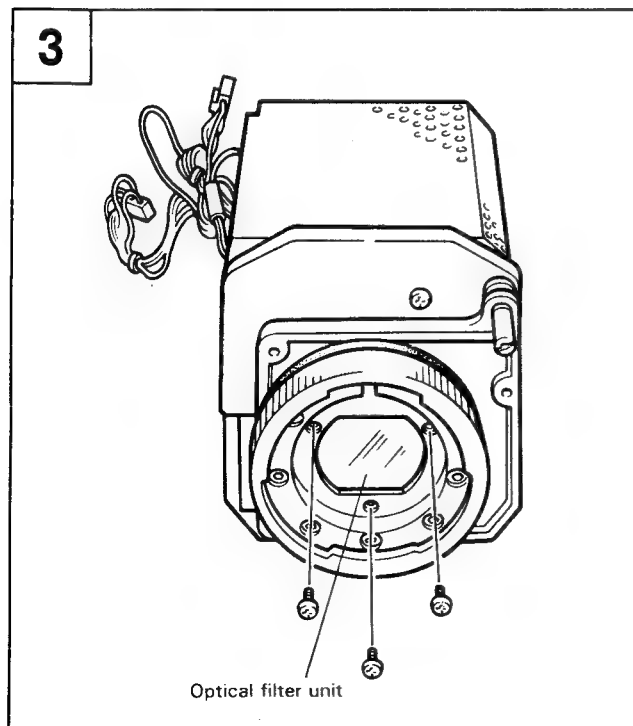
5. Install a new front unit with the four screws. Install the connectors which is disconnected at item 3.

## 2-3-2. REPLACEMENT OF FILTER PLATE.

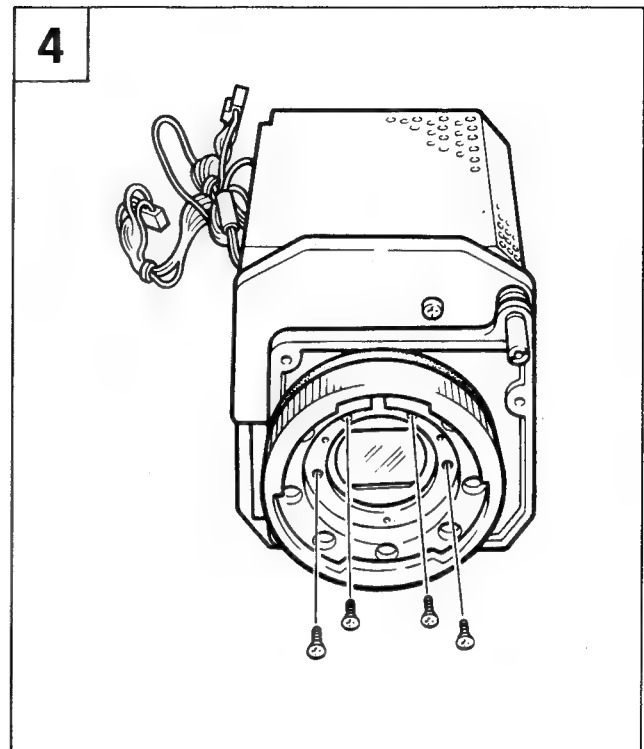
1. Perform the procedures from 1 to 4 of REPLACEMENT OF FRONT UNIT.
2. Remove the knob of filter by loosening the set screw. Remove the MOUNT LEVER. Remove the four screws which fix the CCD block to the front panel.



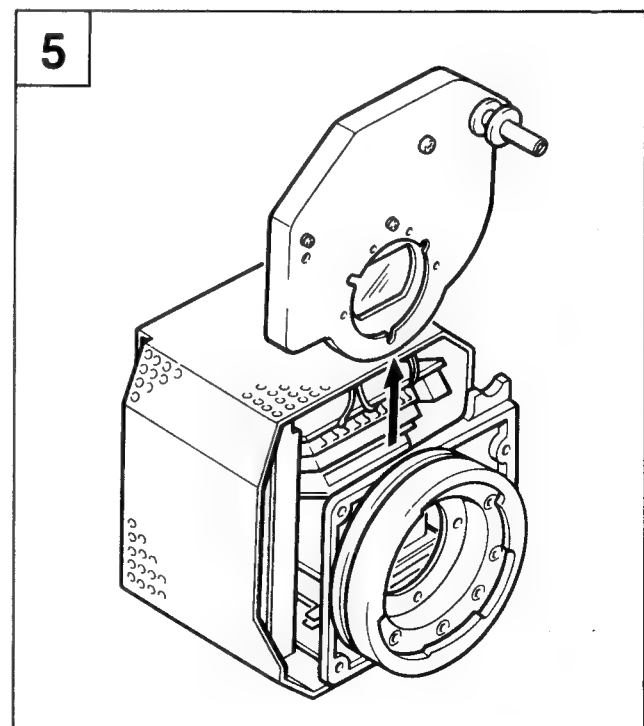
3. Remove the three screws and remove the optical filter unit.



4. Remove the four screws and remove the mount base.

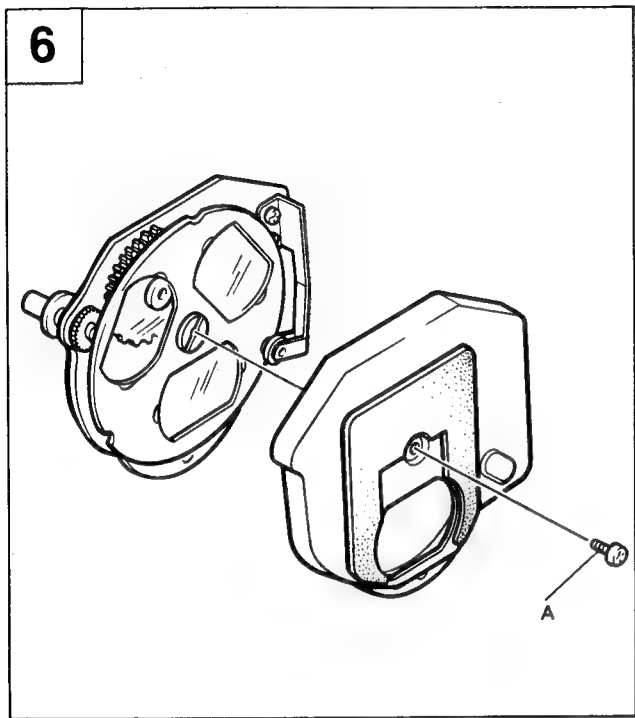


5. Lift up the filter disk unit in the direction shown by the arrow, and it can be removed.

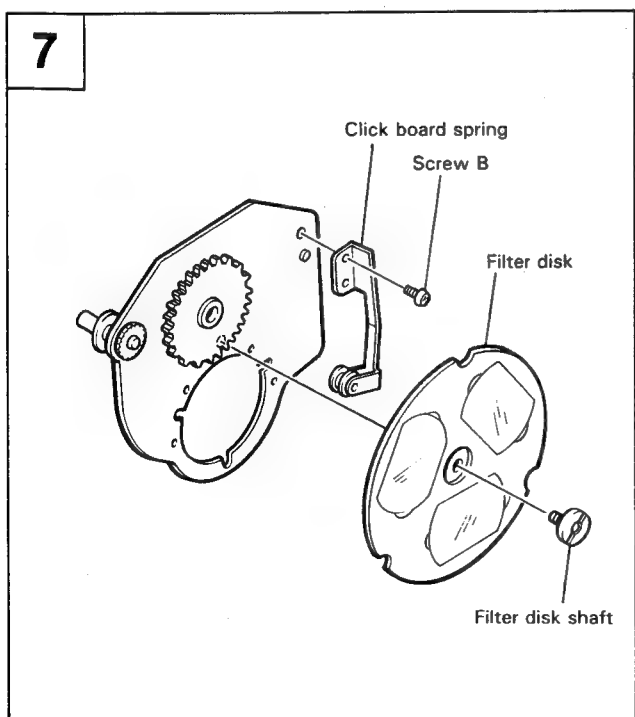


6. Remove the screw A at the center of the filter disk unit, and the filter disk can be removed.

8. Reverse the removal procedure when the pick-up tube is replaced.



7. Remove the screw B, and the klik board spring can be removed.  
Remove the screw C, and the gear can be removed.



### 2-3-3. REPLACEMENT OF TG-18 BOARD

Be sure to change the ROM when replacing the TG-18 board.

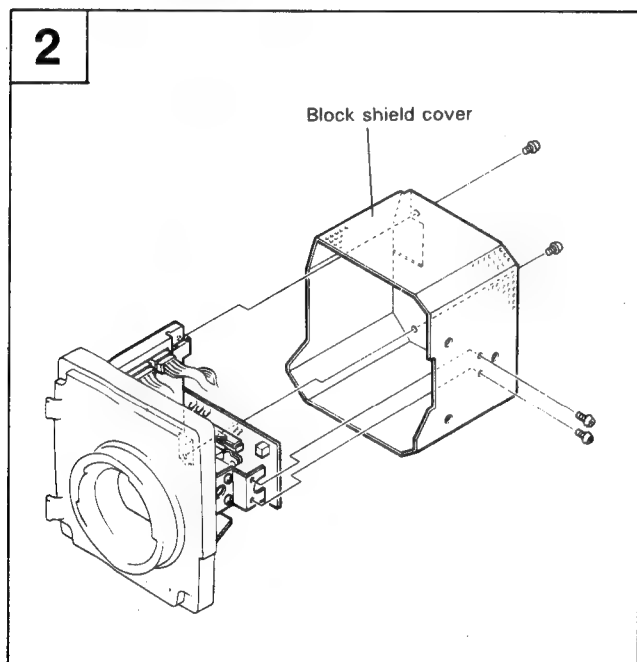
When replacing the TG-18 board of DXC-3000/P with the serial numbers described below, be sure to replace the TG-18 shielding case (A) at the same time. The old shielding case (A) does not apply to a new TG-18 board.

(UC) serial number 10001 ~ 10810

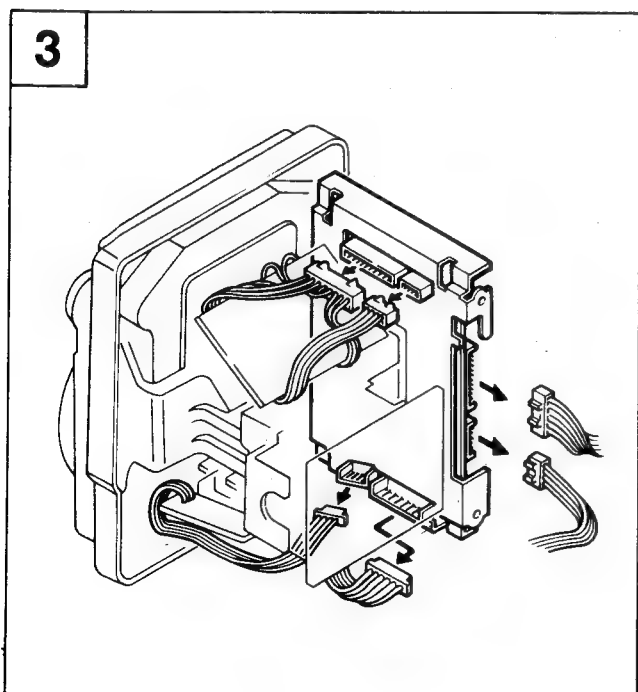
(EK) serial number 10001 ~ 10440

1. Perform the procedures from 1 to 4 of REPLACEMENT OF FRONT UNIT.

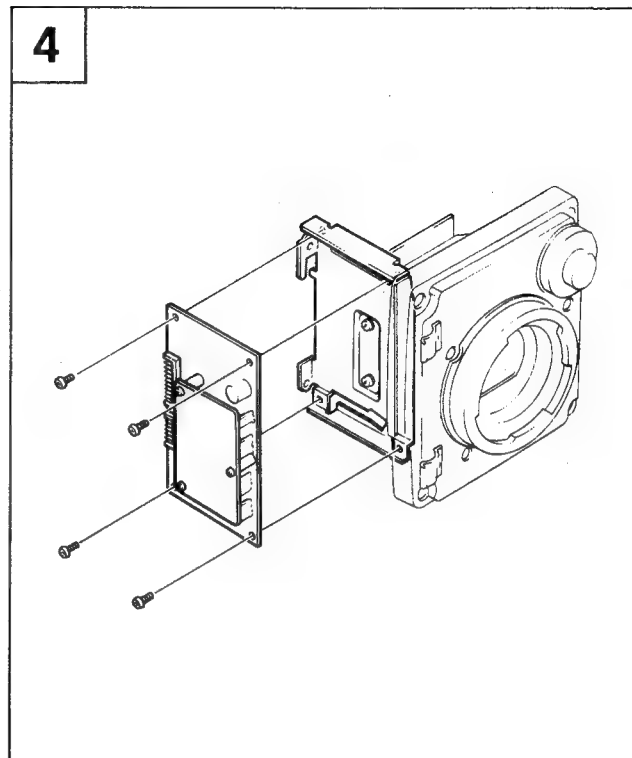
2. Remove the block shield cover.



3. Disconnect from CN1 to CN6 from the TG-18 board.



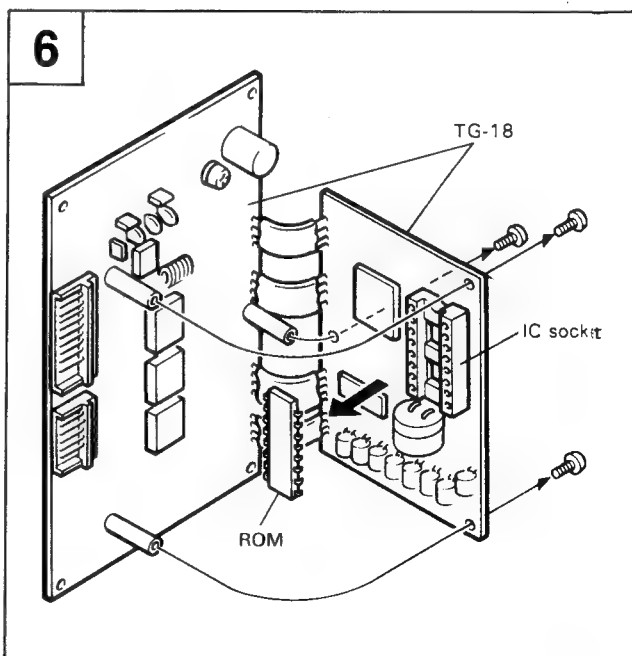
4. Remove the four screws and remove the TG-18 board.



5. Install a new TG-18 board.

6. Take out the ROM from IC2 on the TG-18 board and insert it to IC2 on the new TG-18 board.

When the TG-18 board is replaced, be sure to replace the ROM.



7. Insert the connector from CN1 to CN6 to the new TG-18 board and put the shield case on it.

DXC-3000/P/R (UC/EK/BR)  
DXC-3000A/A (UC/EK)

## 2-4. CONNECTORS AND CABLES

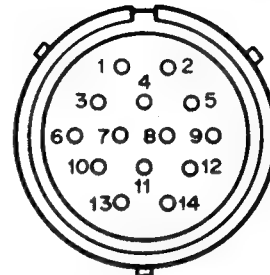
### 2-4-1. Connector Input/Output signals

The main connector input/output signals are as follows:

VIDEO OUT; 1.0Vp-p  $\pm$  0.1V, sync negative  
75  $\Omega$

GEN LOCK; 1.0Vp-p, sync negative  
75  $\Omega$

VTR/CCU (14P)



(EXT VIEW)

CCU		Pin No.	VTR	
REMARK FOR SIGNAL	SIGNAL		SIGNAL	REMARK FOR SIGNAL
10.6V~17V, 3A	UNREG GND	1	UNREG GND	10.6V~17V, 3A
	UNREG + 12V IN	2	UNREG + 12V IN	
-20dBs, 600 $\Omega$	INCOM OUT (X)	3	MIC OUT (X)	-60dBs, 600 $\Omega$
	INCOM OUT (Y)	4	MIC OUT (Y)	
	INCOM OUT (G)	5	MIC OUT (G)	
1.0Vp-p, 75 $\Omega$	COMPOSITE VIDEO OUT (X)	6	COMPOSITE VIDEO OUT (X) Y VIDEO OUT (X)	1.0Vp-p, 75 $\Omega$
	COMPOSITE VIDEO OUT (G)	7	COMPOSITE VIDEO OUT (G) Y VIDEO OUT (G)	
1.0Vp-p, 75 $\Omega$	RETURN VIDEO IN (G)	8	RETURN VIDEO IN (G)	1.0Vp-p, 75 $\Omega$
	RETURN VIDEO IN (X)	9	RETURN VIDEO IN (X)	
This signal is used for controlling CCU.	SERIAL DATA IN/OUT	10	BATTERY ALARM IN	(Note 1)
0.7Vp-p, 75 $\Omega$	R OUT (X)	11	COLOR FRAMING PULSE OUT CHROMA VIDEO OUT	This signal is not used in VTR.
0.7Vp-p, 75 $\Omega$	G OUT (X)	12	REC/ALARM IN	(Note 2)
ON; 4.5 $\pm$ 0.5Vdc OFF; 0 $\pm$ 0.5Vdc	TALLY IN	13	VTR START/STOP OUT	START; 4.5 $\pm$ 0.5Vdc STOP; 0 $\pm$ 0.5Vdc
0.7Vp-p, 75 $\Omega$	B OUT (X)	14	POWER SAVE OUT/ AUDIO MONITOR IN	SAVE; 4.5 $\pm$ 0.5Vdc (across 10k $\Omega$ ) STANDBY; 9.0 $\pm$ 0.5Vdc (across 10k $\Omega$ ) MONITOR; -6dB, 750 $\Omega$

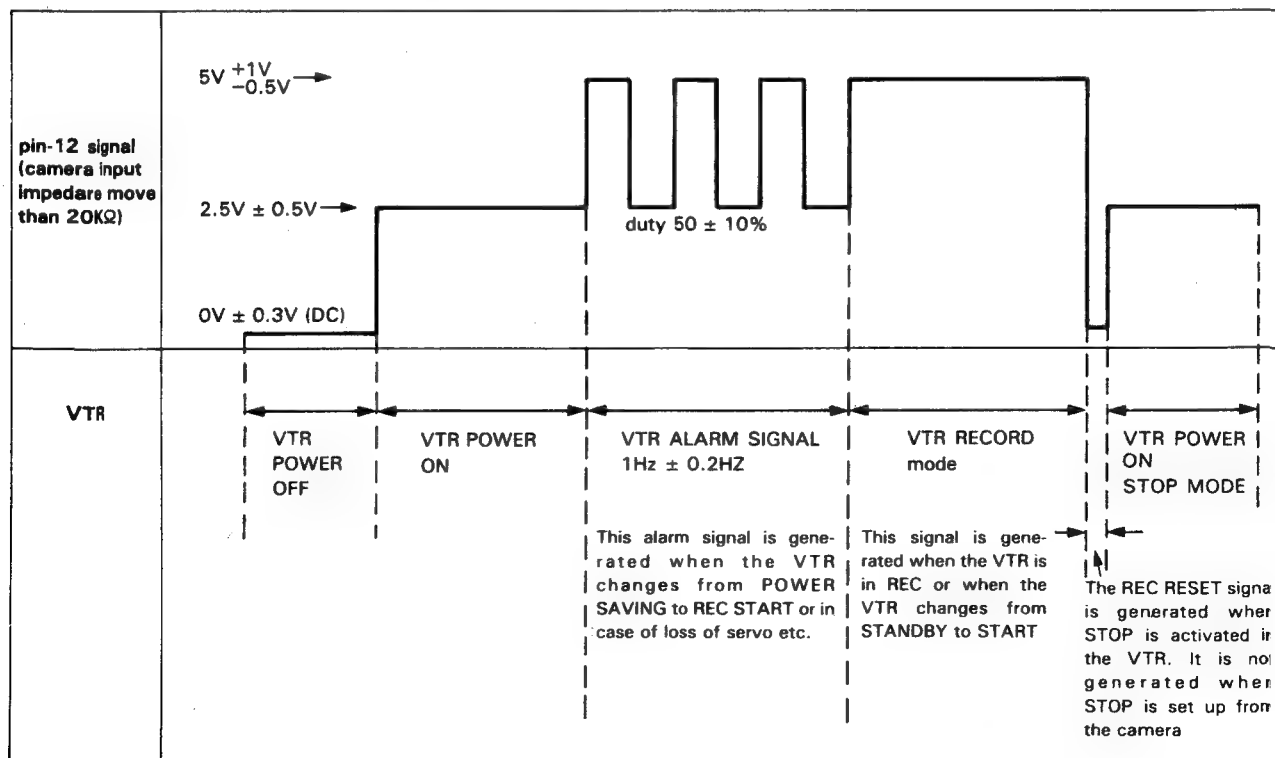
**Note 1: Signal at Pin 10**

Battery voltage detection and warning signal generating circuits are located within the VTR. This signals are supplied from the VTR to the camera to either blink or light the LED at the bottom of the viewfinder.

BATTERY TERMINAL ADAPTOR (VTR INTERNAL BATTERY)	DC12V ~ 11.1V	DC11.1V ~ 10.8V	PIN 10 TURNS HIGH AT DC 10.8V. 10.6V DC or below the VTR Internal Power is cut off so that the Battery Power is sent to Pin 13.
PIN 10 OUTPUT FROM VTR	0V	1Hz $\pm$ 0.2Hz duty 50 $\pm$ 10%	DC2 ~ 3V across 300 $\Omega$
LED IN VIEWFINDER	NEITHER BLINKS NOR LIGHTS	BLINKS AT 1Hz	LIGHTS

**Note 2: Signal at Pin 12**

When the VTR is ON the input to the camera at pin 15 is 2.5V DC. In VTR record mode the voltage is 5V DC. When servo is not applied or if alarm signals are generated within the VTR an alternating 1 Hz signal (2.5 Vp-p with 2.5 V DC as reference) is sent to the camera. At the tape end when the VTR enters Stop mode or when setting up the Stop mode from the VTR. 0V DC is generated from 10 msec to 100 msec (called REC RESET). After REC RESET the signal level returns to 2.5 V DC.



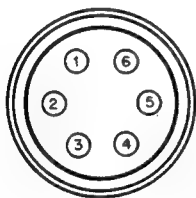
## VF (8P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	UNREG GND	GND for + 12V
2	REC/TALLY OUT	(Note 2)
3	(SPARE)	
4	VF VIDEO OUT (G)	
5	BATT IND, OUT	
6	VF VIDEO OUT (X)	1Vp-p
7	UNREG + 12V OUT	10.6V ~ 17V, 3A
8	(SPARE)	

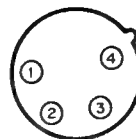
## LENS (6P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	VF VIDEO CONT IN	ON: $0 \pm 0.5\text{Vdc}$
2	VTR START/STOP IN	TRIG: $0 \pm 0.5\text{V}$
3	UNREG (GND)	GND for + 12Vdc
4	FORCED AUTO IRIS OUT	$5 \pm 0.5\text{Vdc}$
5	IRIS CONT OUT	F16 : 3.4Vdc F2.8 : 6.2Vdc
6	UNREG (+ 12V) OUT	10.6 ~ 17Vdc, 3A

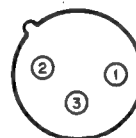
## DC IN (4P)



(WIRING SIDE)

Pin No.	SIGNAL	REMARK FOR SIGNAL
1	UNREG GND	GND for + 12V
2	(SPARE)	
3	(SPARE)	
4	UNREG + 12V IN	10.6V ~ 17V, 3A

## MIC IN (3P)



(WIRING SIDE)

UC	J EK		
Pin No.	Pin No.	SIGNAL	REMARK FOR SIGNAL
1	1	MIC IN (G)	-60dBs, 600Ω
2	3		
3	2	MIC IN (X)	



## 2. SERVICE INFORMATION

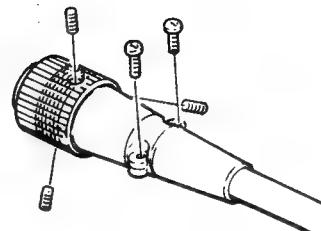
connector function		Parts No. and name of connector with cable
VIDEO OUT GEN LOCK	(BNC)	1-560-069-11 PLUG, BNC or B-B cable assembly (Cable length 1.5m, optional)
VTR/CCU	(14P, MALE)	1-561-043-00 CONNECTOR, 14P, FEMALE 1-508-171-00 CONNECTOR, 10P, MALE (for CCQJ cable) 1-508-929-00 CONNECTOR, 14P, MALE (for CCQ cable) 1-560-110-00 CONNECTOR, 14P, MALE (for CCQK cable) or cable assembly • For 10P-VTR use CCQJ-2 (2m) • For 14P-VTR use CCQK-2 (2m) CCQ-2ARS/2BRS (2m) CCQ-10ARS/10BRS (10m) • For CCU use CCQ-10AM (10m) CCQ-25AM (25m) CCQ-50AM (50m) CCQ-100AM (100m)
VF	(8P, FEMALE)	1-560-247-00 CONNECTOR, 8P, MALE or extension cable assembly (optional) VK-10D VK-50X
LENS	(6P, FEMALE)	HR10-7PA-6PS PLUG, 6P, MALE
DC IN	(4P, MALE)	1-560-261-00 XLR-4P, FEMALE or cable assembly (optional) 1-551-969-00
MIC IN	(3P, FEMALE)	1-516-125-00 XLR-3P, MALE CANON XLR-3-12C equality
INTERCOM	(JACK)	1-557-339-00 PLUG, MINI (with sensor) or head set DR-100 (optional)

### 2-4-3. Removal of the CCQ connector

#### CCQ Connector (Removal of the connector)

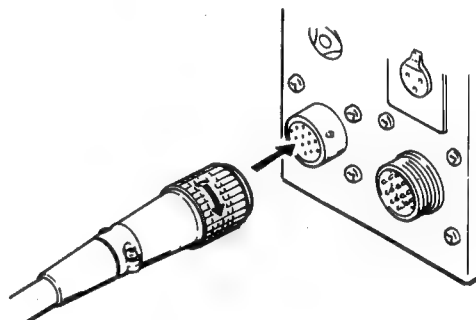
**Step 1.**

Remove the three hexagonal setscrews and the two ⊕ setscrews.



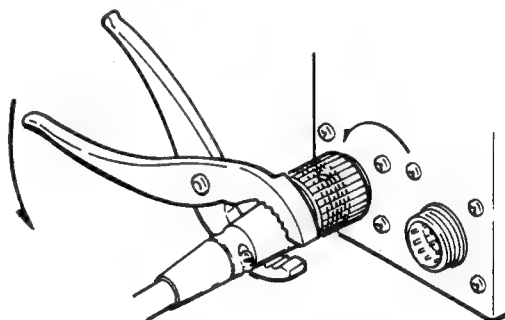
**Step 2.**

Fix the CCQ connector at the camera or VTR connector.



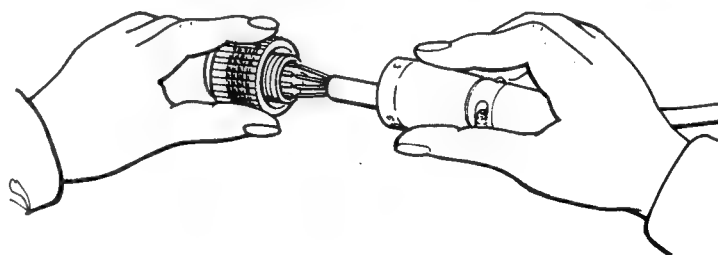
**Step 3.**

Rotate the CCQ connector to counterclockwise by the plier and loosen it.



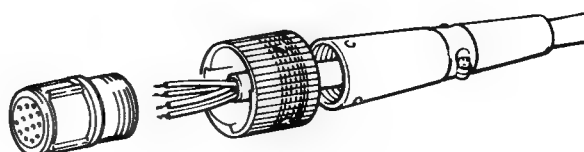
**Step 4.**

It can be removed by hand and unsolder

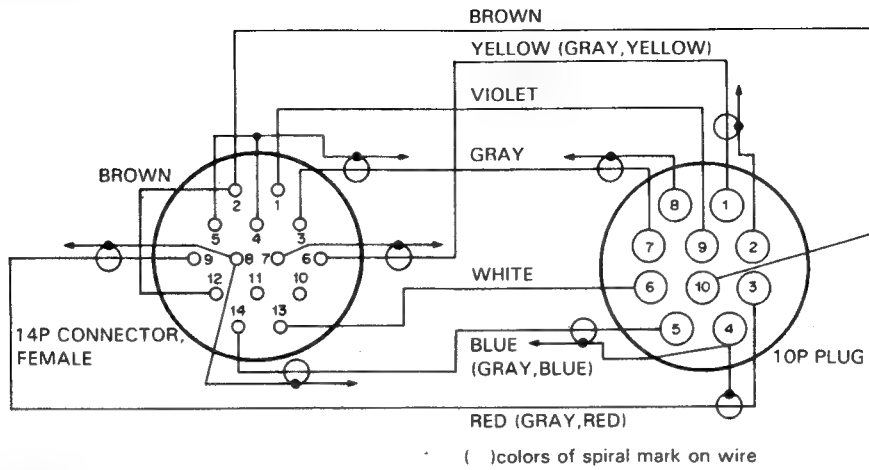


**Step 5.**

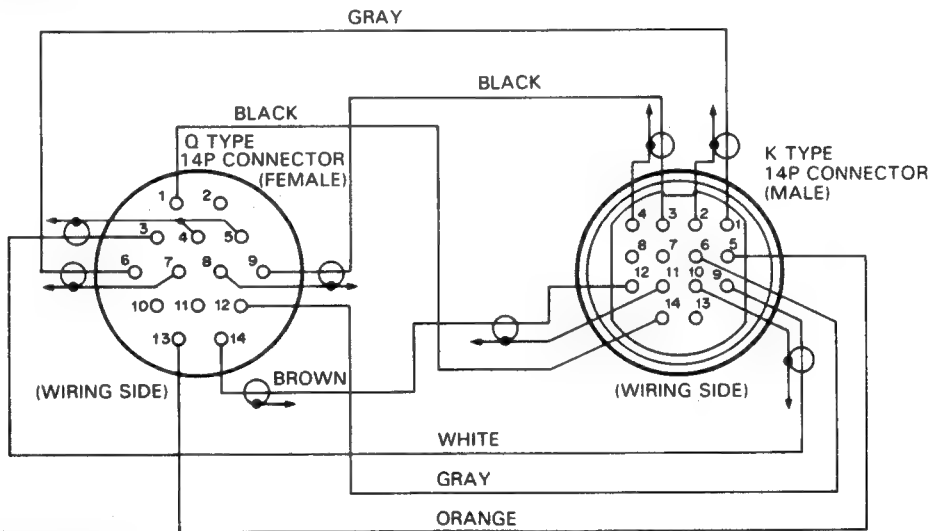
It can be broken up as shown in Figure.



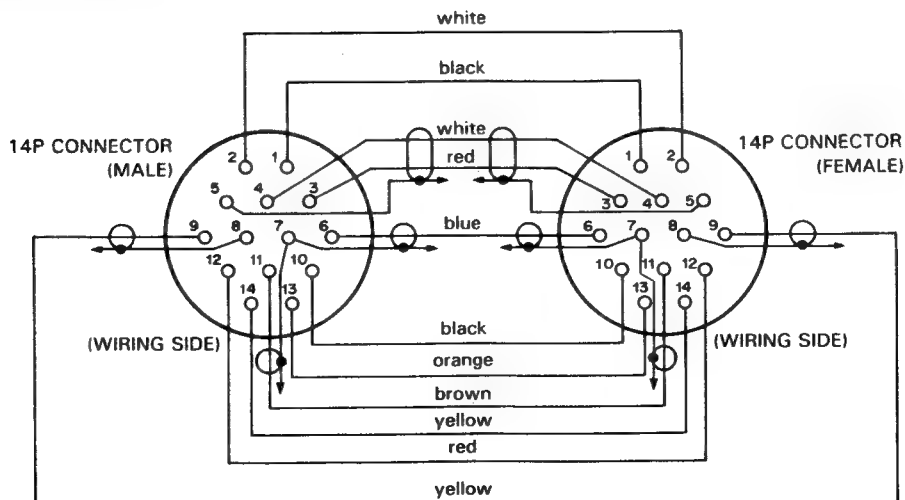
**CCQJ cable (Wiring diagram)**



**CCQK cable (Wiring diagram)**



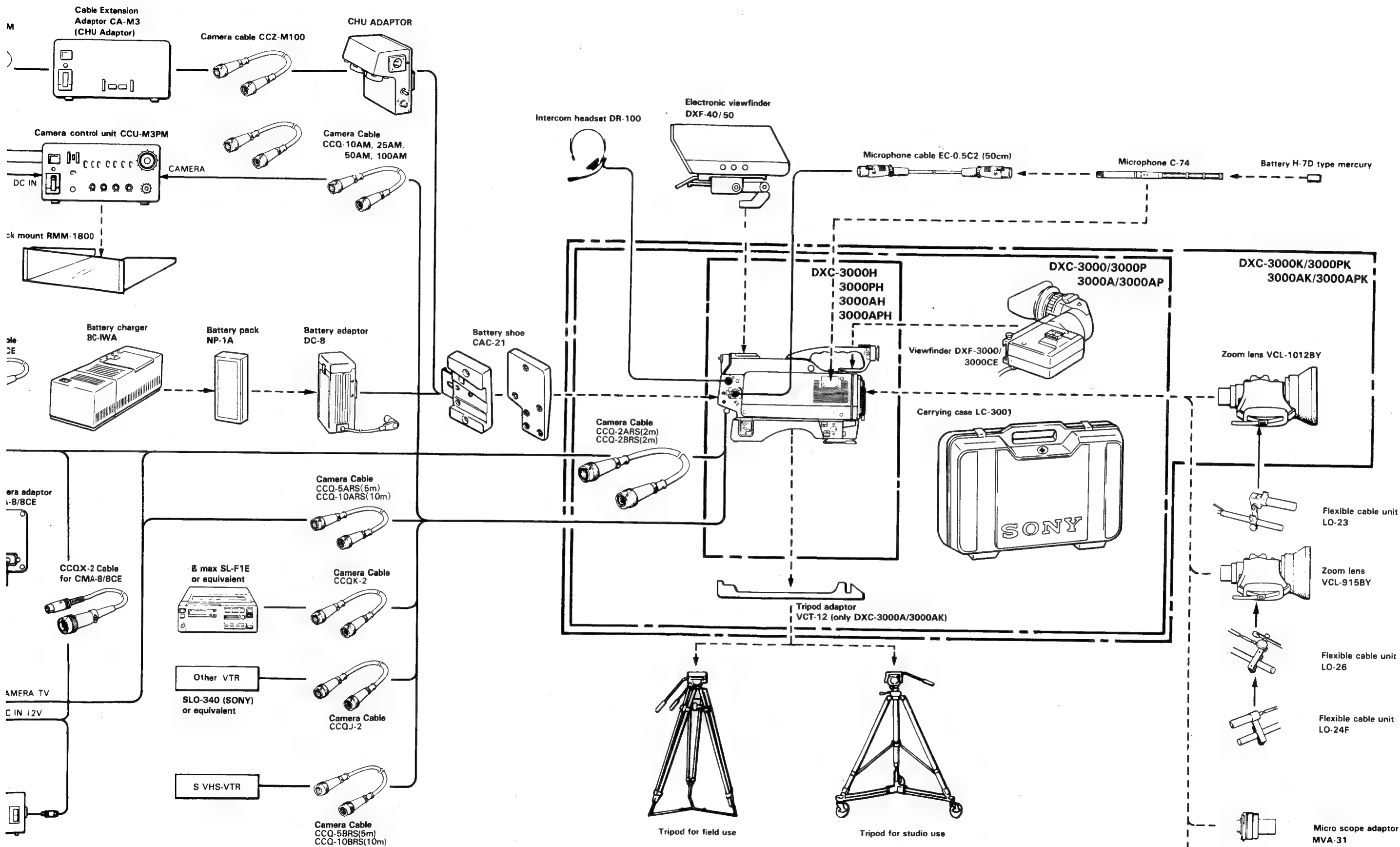
**CCQ-nARS/nBRS cable (Wiring diagram)**



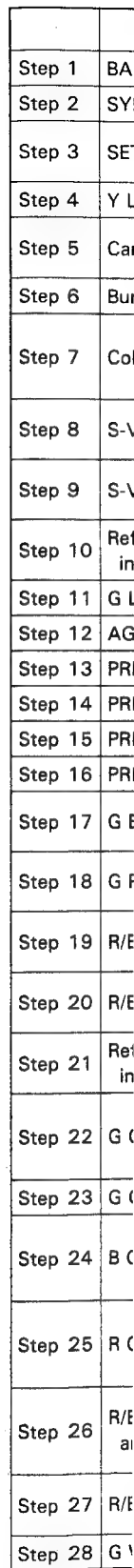
Note: Shielded wire of pin 11 is only nBRs cable.

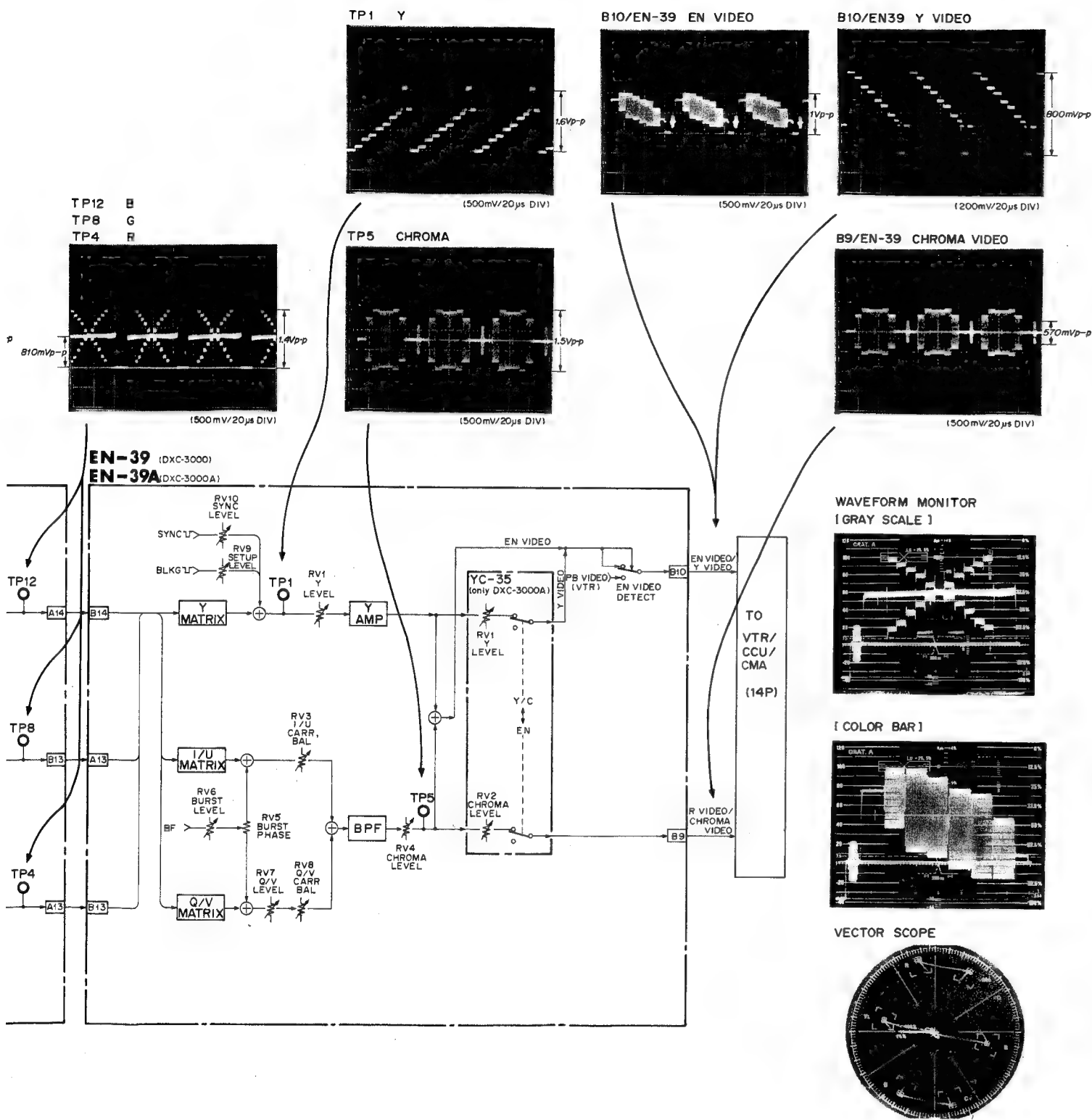
The configuration of the DXC-3000/3000P, DXC-3000A/3000AP system and the block diagram of separate accessories for sale (peripheral devices) are shown.



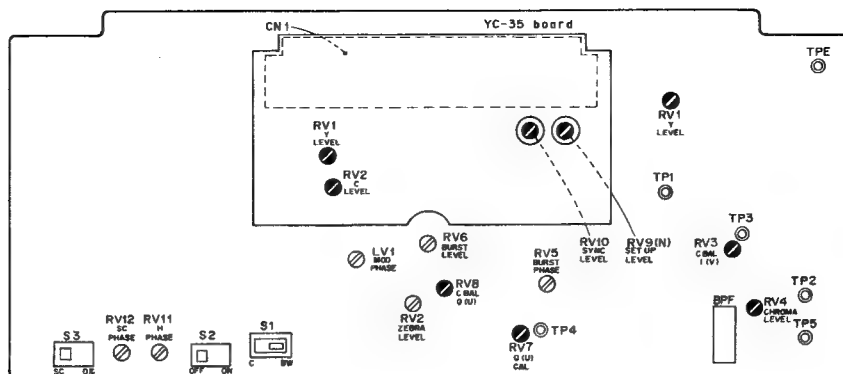


### 2-6-1. Video Level Check Sheet

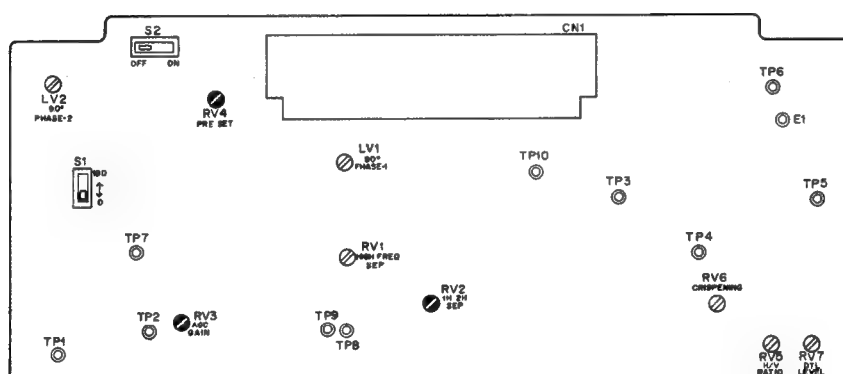




	Item	Switch setting	Measuring point	Adjusting point	Spec.	
Step 1	BARS Level	GAIN Switch→0 dB BARS WB Switch→BARS S1 (YC/ENC) Switch /YC-35→ENC	TP8/PR-71	RV6/PR-71	1.05±0.01 Vp-p	Repeat steps 1 to 3 several times
Step 2	SYNC Level			RV10/EN-39	40±2 IRE	
Step 3	SETUP Level		WFM	RV9/EN-39	7.5±0.5 IRE (or 0±0.5 IRE)	
Step 4	Y Level			RV1/EN-39	77±2 IRE	
Step 5	Carrier Balance		Vector scope	RV3/EN-39 RV8/EN-39	White beam spot →center	
Step 6	Burst Level			RV6/EN-39	75%	
Step 7	Color Vector			RV4, RV5 RV7, LV1 /EN-39	beam spots of each color→inside the mark	
Step 8	S-VHS Y Level	S1 (YC/ENC) Switch /YC-35→YC	B10/Extension board (EN-39)	RV1/YC-35	800±10 mVp-p	only DXC-3000A
Step 9	S-VHS C Level		CCQ-11 PIN/CMA-8	RV2/YC-35	Burst Level 570±10 mVp-p	
Step 10	Reference Green input level	S1 (YC/ENC) Switch /YC-35→ENC BARS WB Switch →3200°K Object →gray scale chart	TP5/PR-71	Lens iris	400±10 mVp-p	Lens iris F=5.6
Step 11	G Level		TP7/PR-71	RV8/PR-71	600±10 mVp-p	
Step 12	AGC Gain		TP3/IE-14	RV3/PR-71	600±10 mVp-p	
Step 13	PRE B Level		TP10/PR-71	RV18/PR-71	200±5 mVp-p	
Step 14	PRE B Gain		TP11/PR-71	RV19/PR-71	600±10 mVp-p	
Step 15	PRE R Level		TP2/PR-71	RV1/PR-71	200±5 mVp-p	
Step 16	PRE R Gain		TP3/PR-71	RV2/PR-71	600±5 mVp-p	
Step 17	G Black Set	Lens iris→Close	TP8/PR-71	RV16/PR-71	Equal pedestal of 0 dB and it of 18 dB	Lens iris →close
Step 18	G Pedestal	Lens iris→Close GAIN Switch→0 dB		RV11/PR-71	40±5 mVp-p	
Step 19	R/B Black Set	Lens iris→Close GAIN Switch→18 dB	Vector scope	RV15, RV17 /PR-71	White beam spot →center	Repeat steps 17 to 20 several times
Step 20	R/B Pedestal	Lens iris→Close GAIN Switch→0 dB		RV5, RV22 /PR-71		
Step 21	Reference Green input level	GAIN Switch→0 dB	TP5/PR-71	Lens iris	400±10 mVp-p	Lens iris F=5.6
Step 22	G Gamma Balance		TP8/PR-71	RV10/PR-71	White level does not change when RV9 is turned.	
Step 23	G Gamma set			RV9/PR-71	810±10 mVp-p	
Step 24	B Gamma Balance		TP12/PR-71	RV21/PR-71	White level does not change when RV20 is turned.	
Step 25	R Gamma Balance		TP4/PR-71	RV4/PR-71	White level does not change when RV3 is turned.	
Step 26	R/B Gamma Set and R/B Gain		Vector scope	RV2, RV19 RV3, RV20 /PR-71	White beam spot →center (61 IRE: WFM)	
Step 27	R/B White Clip	Lens iris→open	WFM	RV12, RV13	Carrier of white portion is minimized	
Step 28	G White clip			RV4/PR-71	115±2 IRE	



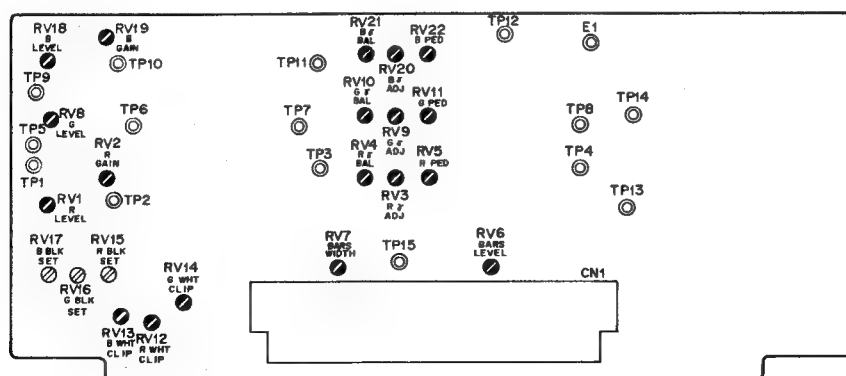
EN-39/39A board (component side)



IE-14 board (component side)



IE-14 board (side)



PR-71 board (component side)



## 2-6-2. Note on Service

- (1) When replacing the front unit assembly, also replace the ROM IC (supplied together with CCD block parts).
- (2) When replacing board TG-18 on which the ROM IC (MB7052) is mounted, remove the ROM from the board and mount it on a new TG-18 board.
- (3) The PA-40(R) board, PA-41(G) board and PA-40(B) board on which the CCD is mounted had better not be removed.  
When removing it, the CCD is sometimes broken by the static electricity.  
If the CCD is broken, the whole CCD unit must be replaced.

## 2-7. HOW TO IMPROVE THE DXC-3000 TO THE DXC-3000A

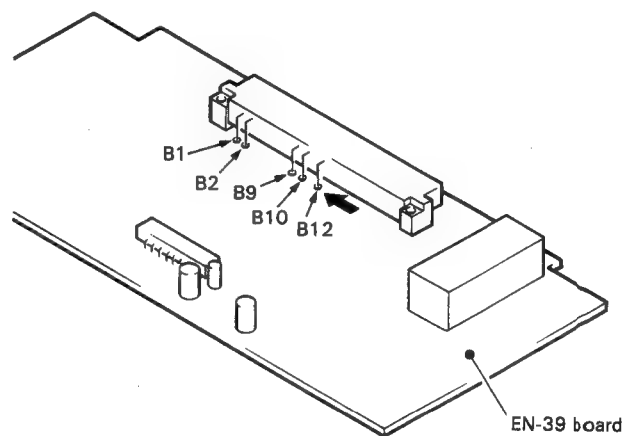
This modification performs for connecting the DXC-3000 and the VTR of Y and Chroma separate type.

### [Requirement]

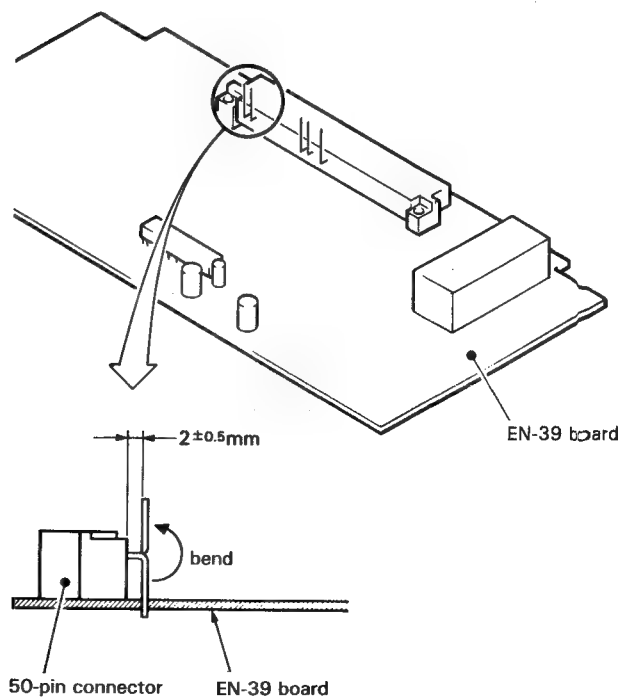
Mounted Board "YC-35" (Sony part No. A-7513-662-A)

### [How to Improve]

1. Cut the lead wire "B1", "B2", "B9", "B10", and "B12" of connector from the part near the board (← mark).

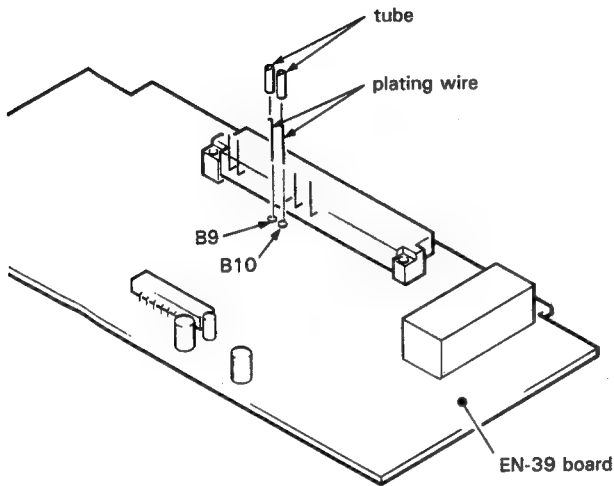


2. Bend the five lead wires in the opposite direction.

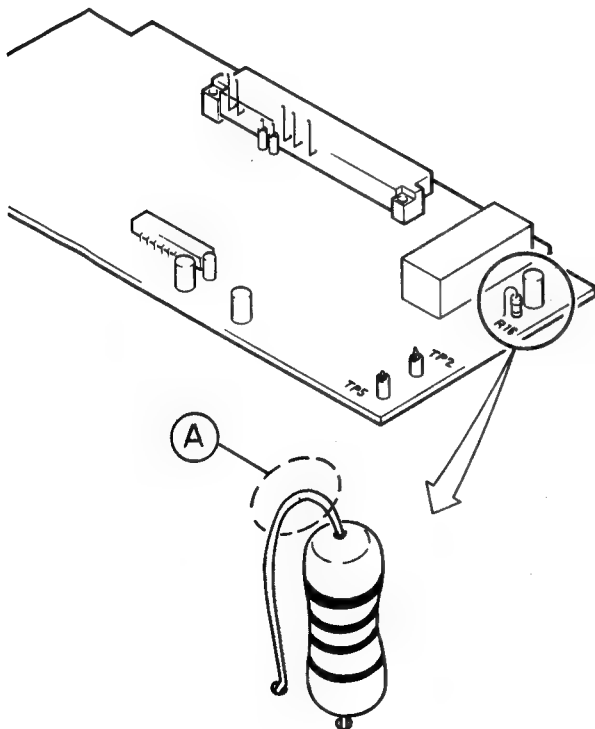


3. Desolder the lead wire B9 and B10, and remove them.

4. Attach the plating wire in the hole of the B9 and B10 and pass through the tube as follow.

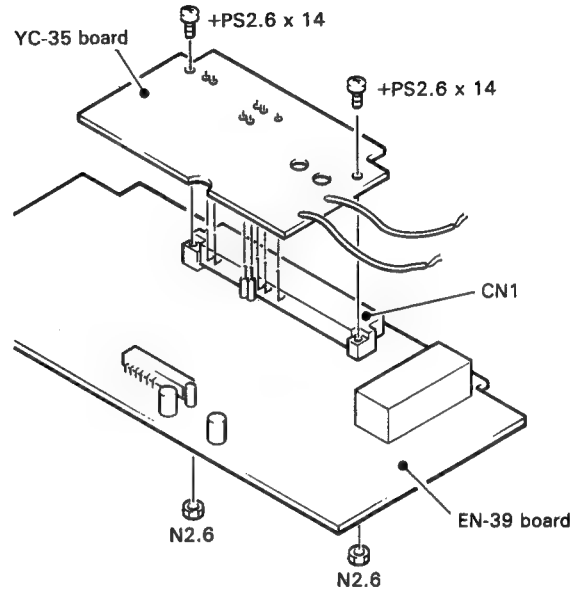


5. Shave the clad of the lead wire (A portion).

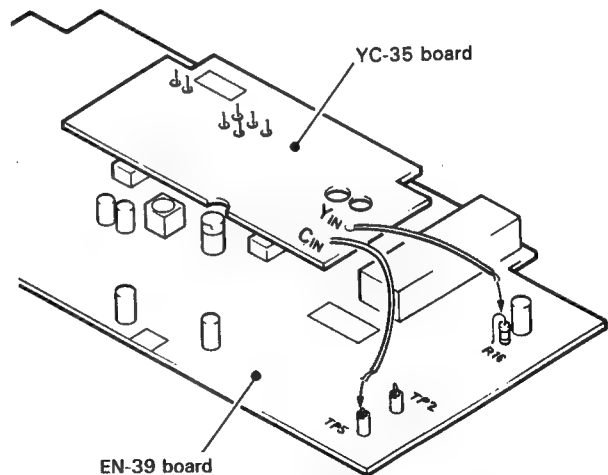


6. Insert the five bended lead wires and the two plating wire in the appointed holes of the YC-35 board, and solder them.

Fix the YC-35 board on the EN-39 board by using the two screws (+ PS2.6 x 14) and nuts.



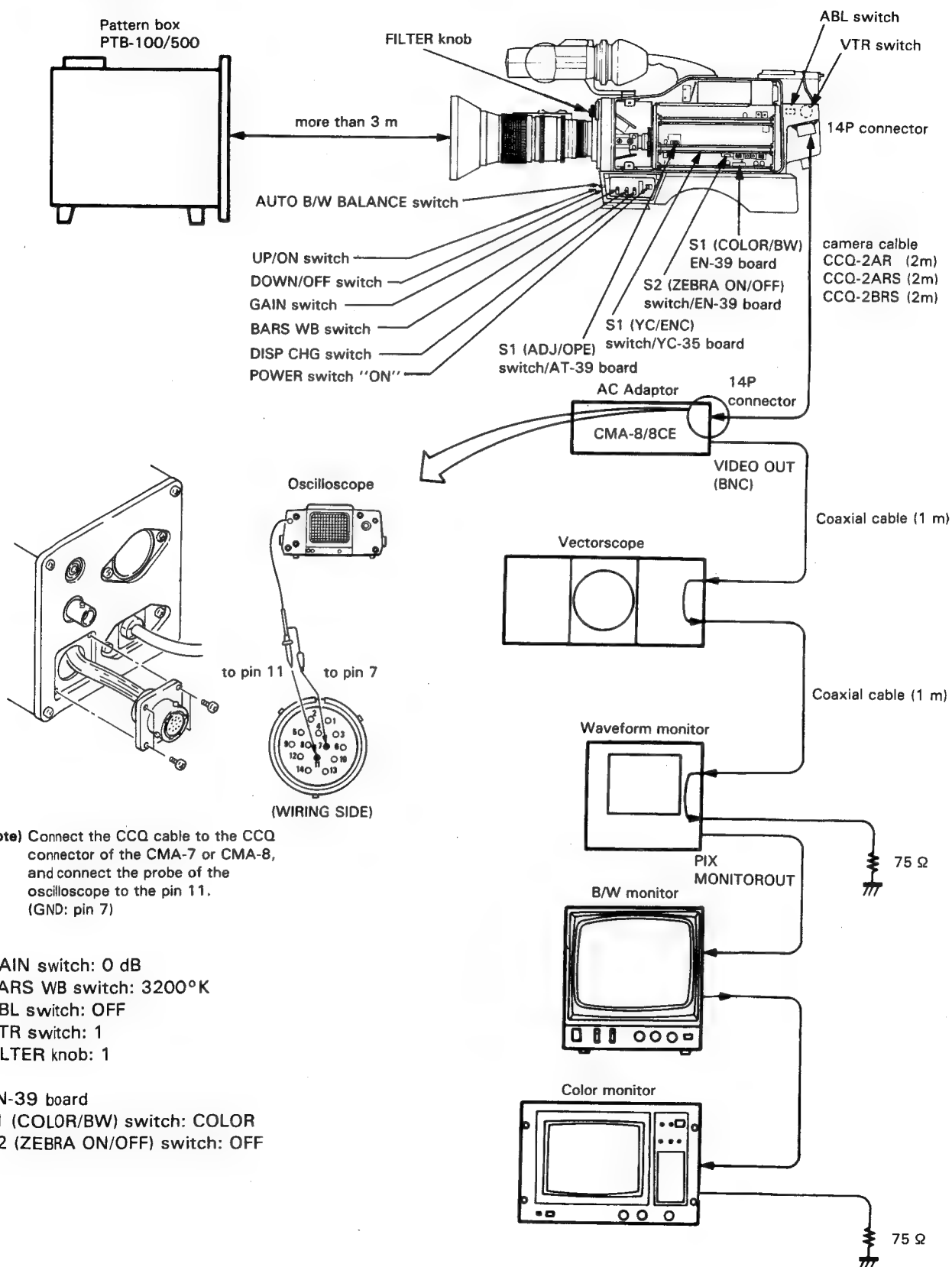
7. Connect the Y IN terminal on the YC-35 board and the TP5 on the EN-35 board, and connect the C IN terminal on the YC-35 board and the lead wire of R16 on the EN-35 board.



8. Perform the Y level and chroma level adjustment of the YC-35 board.

## 8. Y Level and Chroma Level adjustment

### Connections and Initial setting



Equipment: Vectorscope, Waveform monitor  
To be extended: EN-39 board

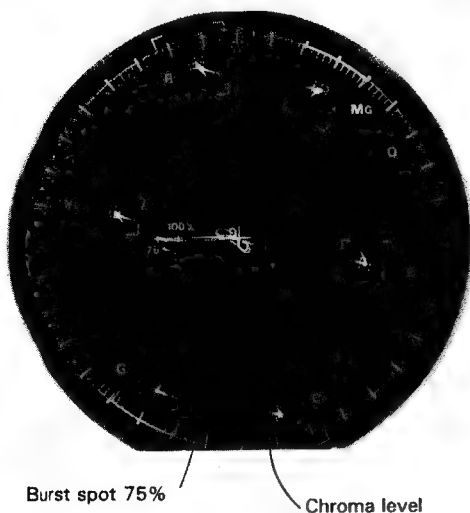
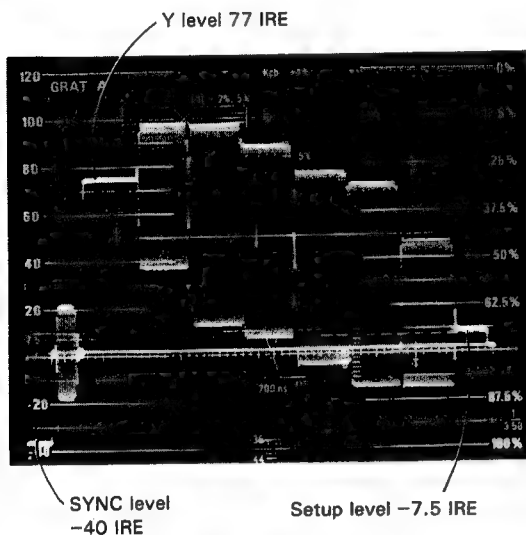
Preparation: Set the GAIN switch on the vectorscope to 75%.

Adjust PHASE control on the vectorscope so that the burst spot is set to the 75% axis.

Set the S1 (YC/ENC) switch on the YC-35 board to ENC.

Adjustment:

1. Be sure that the Y level, chroma level, and burst level on the waveform monitor and vectorscope is standard.

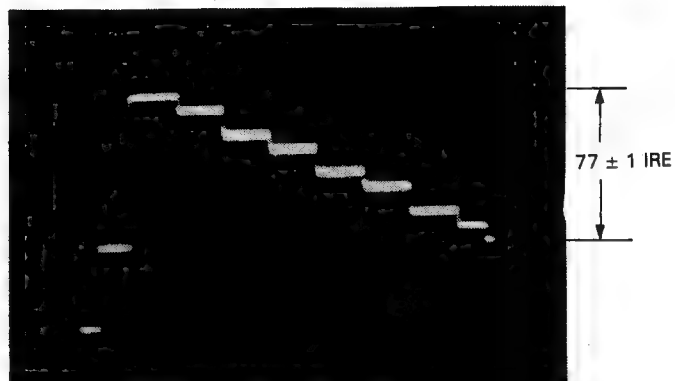


- Be sure that the beam spots of each color CR, YL, G, CY, B and MG, are inside the "E" mark.

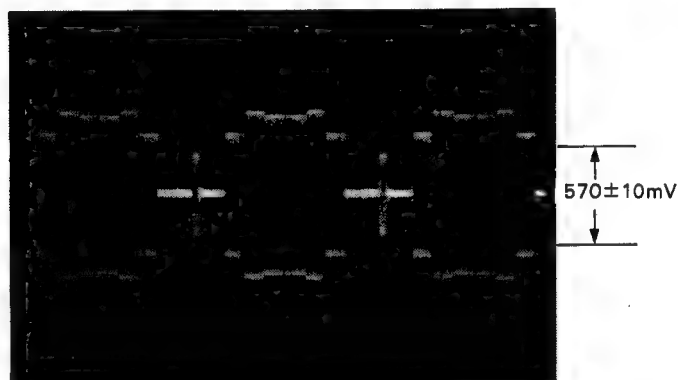
Note: When the specifications are not satisfied, carry out 3-5, ENCODER SYSTEM (PR-71, EN-39 board) adjustment.

2. Set the S1 (YC/ENC) switch on the YC-35 board to YC.

3. Adjust RV1/YC-35 board so that the white level of Y signal at the waveform monitor is  $77 \pm 1$  IRE.



4. Adjust RV2/YC-35 board so that the burst level of chroma signal at the pin 11/CMA-7 and CMA-8 is  $570 \pm 10$  mV.



5. Set the S1 (YC/ENC) switch on the YC-35 board to ENC.

6. Be sure that the specifications Y level, chroma level and burst level on the waveform is satisfied.

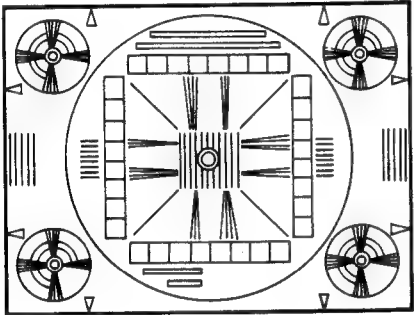
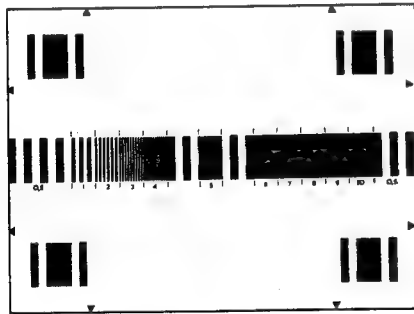
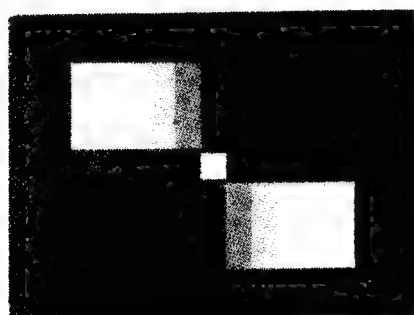


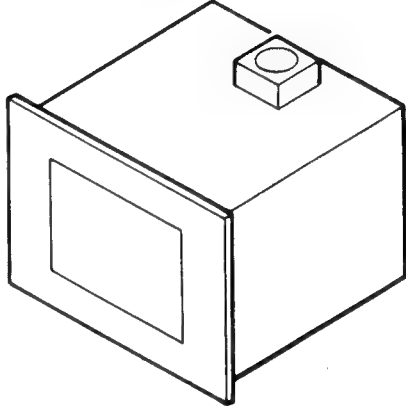
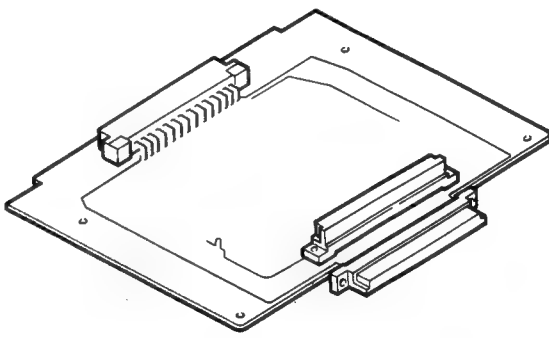
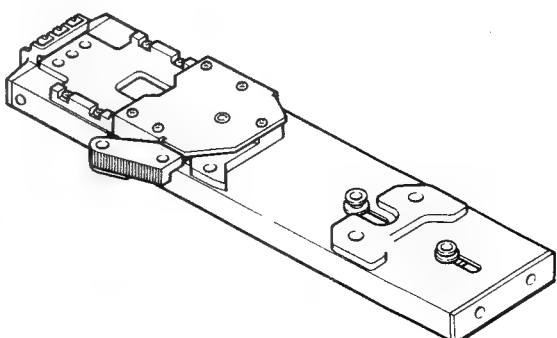
## SECTION 3 ALIGNMENT

### 3-1. PREPARATION

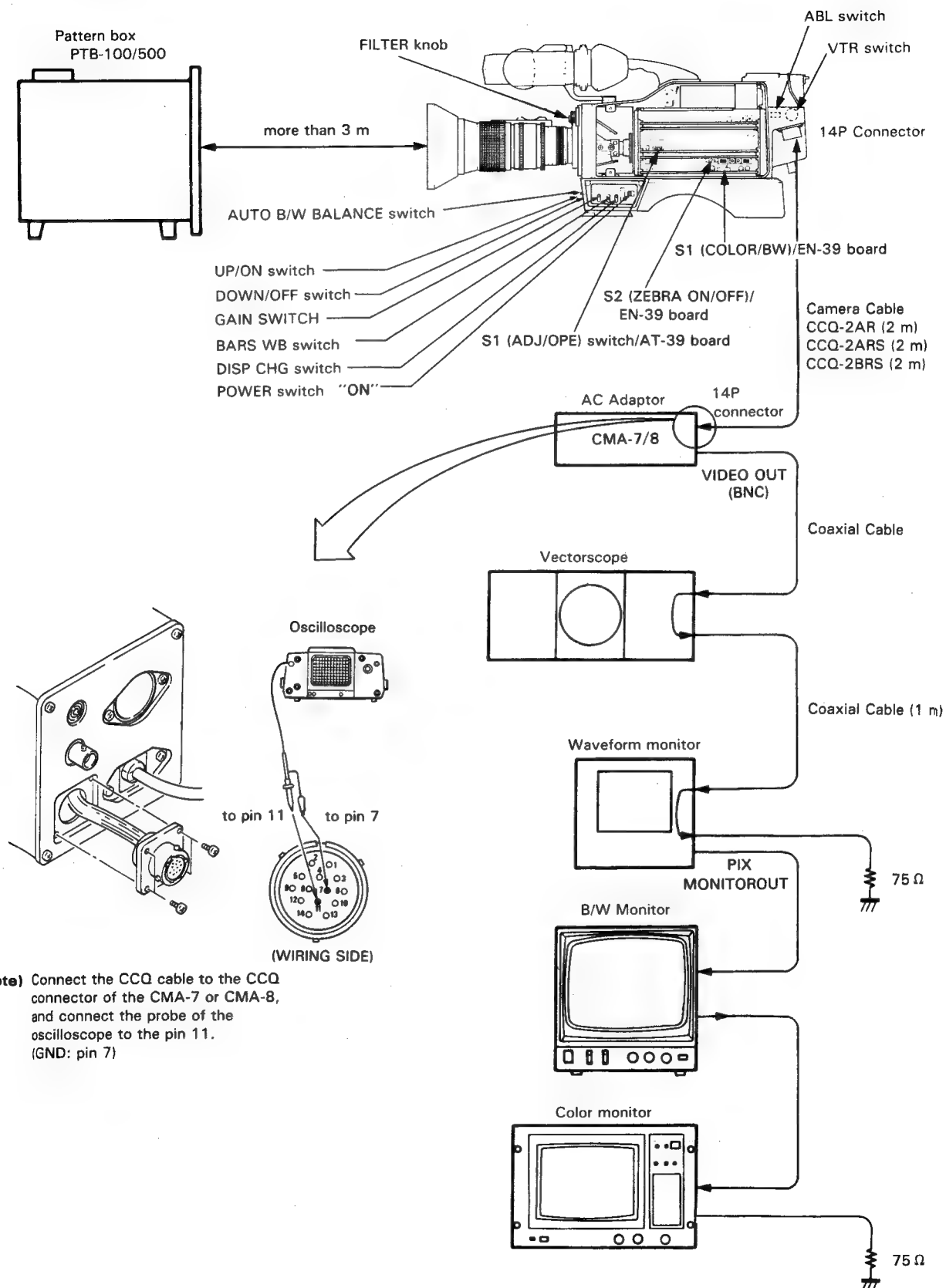
#### 3-1-1. Equipment Required

- Oscilloscope (more than 30 MHz)
- Waveform monitor
- Vectorscope
- Black and white monitor (Sony PVM-91 or equivalent)
- Color Monitor (Sony PVM-1320 or equivalent)
- AC Adaptor (Sony CMA-7 or CMA-8)
- Frequency counter

J-6026-100-A	Resolution chart
	
J-6026-110-A	Multiburst chart
	
J-6026-130-A	Grayscale chart
	

J-6020-490-A J-6029-140-A	PTB-100 Pattern Box PTB-500 Pattern Box
<ul style="list-style-type: none"> <li>• Light source for test chart (90 to 130 VAC: PTB-100) (90 to 240 VAC: PTB-500)</li> </ul> 	
A-7513-383-A	Extension board EX-98
<ul style="list-style-type: none"> <li>• For adjustment of IE-14, PR-71, AT-39, EN-39, and SG-37 boards</li> </ul> 	
VCT-12 Tripod Adaptor	
	

### 3-1-2. Connections



### 3-1-3. Initial Setting

Set the camera switches and controls as follows.

GAIN switch: 0 dB  
BARS WB switch: 3200°K  
ABL switch: OFF  
VTR switch: 1  
FILTER knob: 1

EN-39 board

S1 (COLOR/BW) switch: COLOR  
S2 (ZEBRA ON/OFF) switch: OFF

AT-39 board

Reset the back-up memory by changing over the S1 (COLOR/OPE) switch as follows.

Step 1. Set the POWER switch to OFF position.

Step 2. Set the S1 switch to ADJ.

Step 3. Set the POWER switch to ON position.

MEMORY NG is then displayed on the viewfinder screen.

Note: During the adjustment, do not touch the following switches.

If the switches are changed over, be sure to reset the back-up memory again.

- AUTO B/W BALANCE switch
- S1 (ADJ/OPE) switch



## 3-2. BEFORE ADJUSTMENT

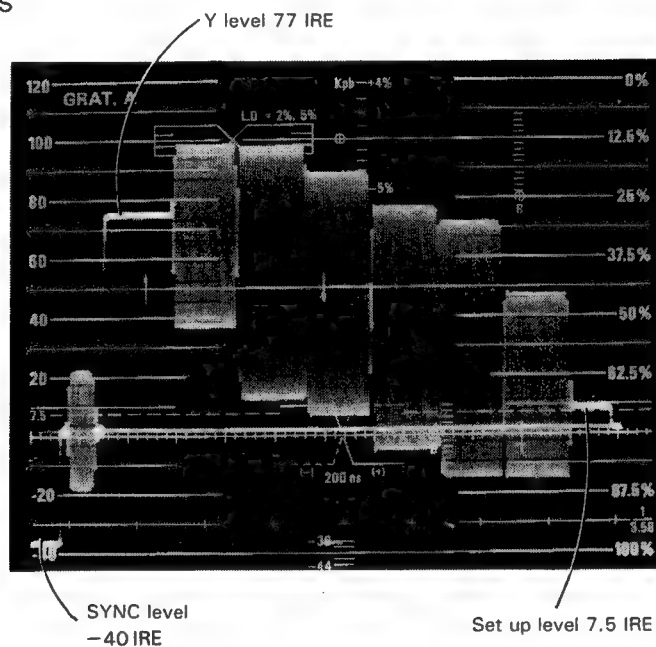
- Note: 1. Before adjustment, connect the equipments referring to 3-1-2 Connections. And confirm that the following specifications are satisfied.
2. Before adjustment, set the POWER switch to ON and warm up for about 10 minutes.

### 3-2-1. Color bar signal

Equipment: Vectorscope, Waveform monitor

Preparation: Set the BARS WB switch on the side of the camera to BARS

Specifications:

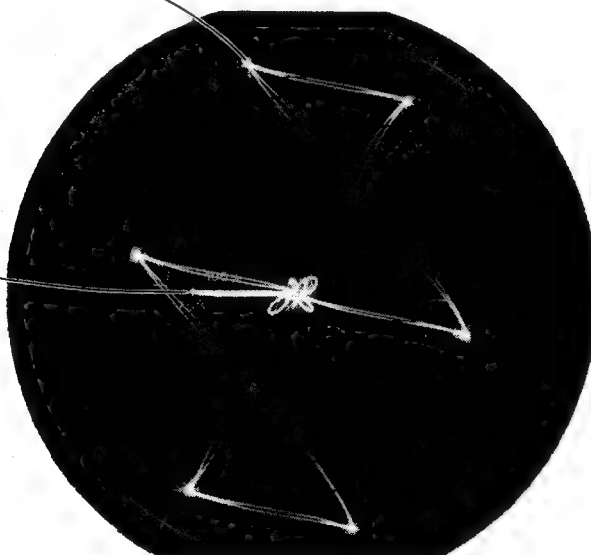


Chroma level

- Adjust so that the beam spots of each color (R, YL, G, CY, B, and MG) are inside the "E" mark.

Note: Partial difference between scale and signal level is caused by photographic error.

Burst spot 75%



Note: When the specifications are not satisfied, carry out 3-5 ENCODER SYSTEM (PR-71, EN-39 board) adjustment.

### 3-2-2. Sensitivity measurement

Object: White pattern

Lighting: 3200°K, 2000 lux

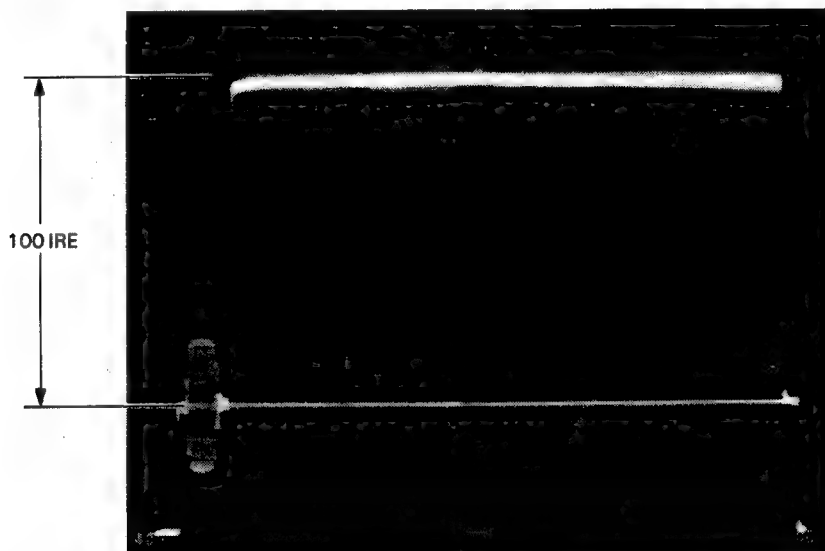
(If the pattern box "PTB-100" is used, set the AUTO mode to "706 Nit")

Preparation:

1. Adjust the zoom control at "TELE" so that the white pattern frame touches the underscanned picture frame on the screen.
2. Manually set the iris control to F5.6
3. Set the BARS WB switch on the front of the camera to AUTO.
4. Perform the automatic white balancing.

Equipment: Waveform monitor

Specifications: Adjust so that the white level of the grayscale chart is 100 IRE.



Note: When the specification is not satisfied, perform all adjustments in 3-6, Video Process System.

### 3-2-3. Gamma and gradation measurement

Object: Grayscale chart  
(Sony parts number J-6026-130-A)

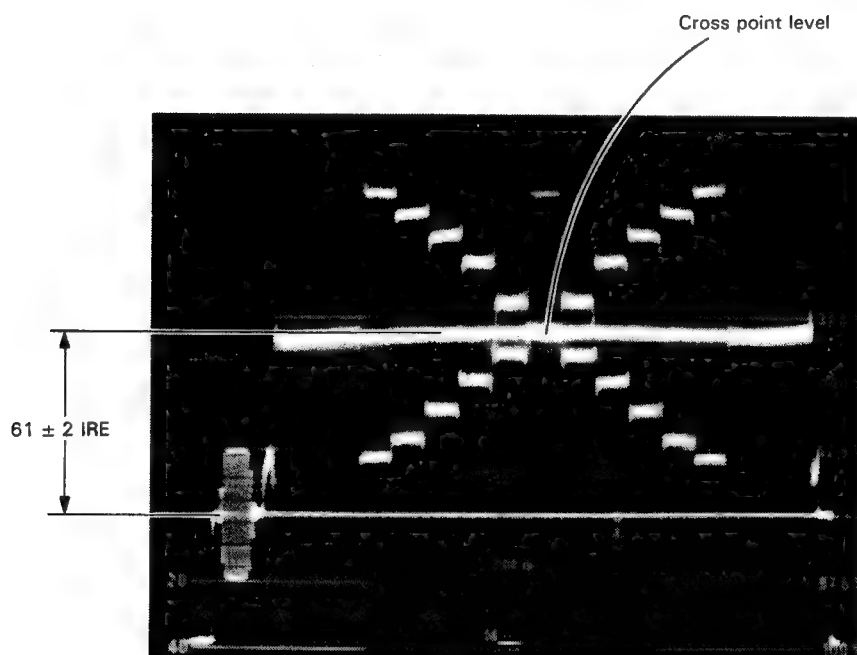
Light: Pattern box PTB-100/500

Equipment: Waveform monitor

Preparation:

1. Set the BARS WB switch on the side of the camera to 3200 °K.
2. Adjust the zoom control so that the Grayscale chart frame touches the underscanned picture frame on the monitor.
3. Adjust the iris control so that the white level of Grayscale chart is 100 IRE on the waveform monitor.

Specification: Adjust so that the cross point level of the grayscale chart is  $61 \pm 2$  IRE.



Note: Partial difference between signal level and scale is caused by a photographic error.

Note: When the specification is not satisfied, carry out 3-6-8 G ch Gamma Balance and Gamma Set Adjustment.

### 3-2-4. Resolution measurement

Object: Resolution chart  
(Sony parts number J-6026-100-A)

Light: Pattern box PTB-100/500

Equipment: Waveform monitor

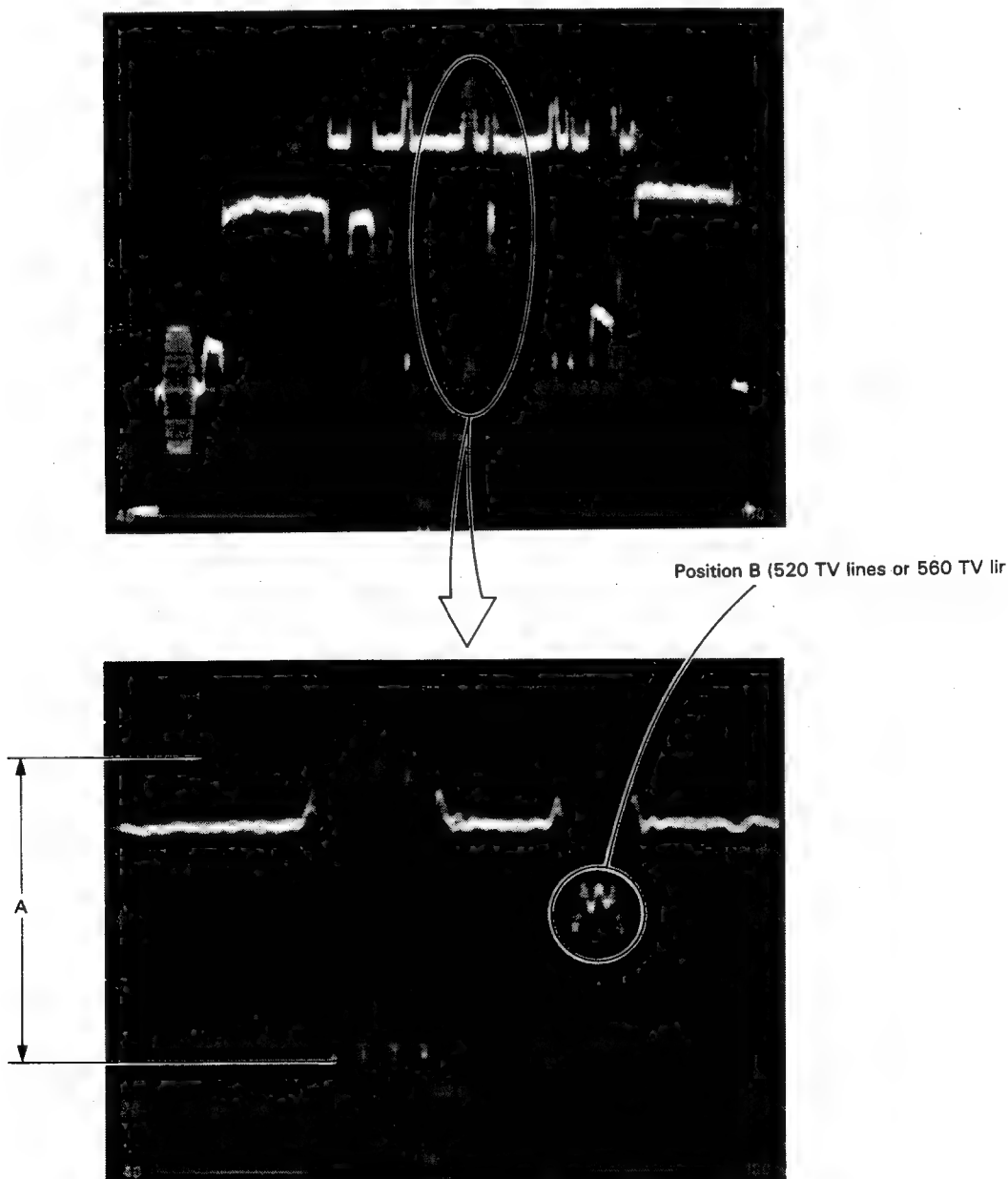
Preparation:

1. Set the BARS WB switch on the side of the camera to 3200°K
2. Adjust the zoom control so that the resolution chart frame touches the underscanned frame on the monitor.
3. Adjust the iris control so that the white level of the resolution chart is 80 IRE on the waveform monitor.
4. Adjust the focus control so that the amplitude "A" of the resolution chart is maximized.
5. Set the "LINE SELECTOR" of the waveform monitor to the 520 TV lines (DXC-3000), or 560 TV lines (DXC-3000A) of the resolution chart.

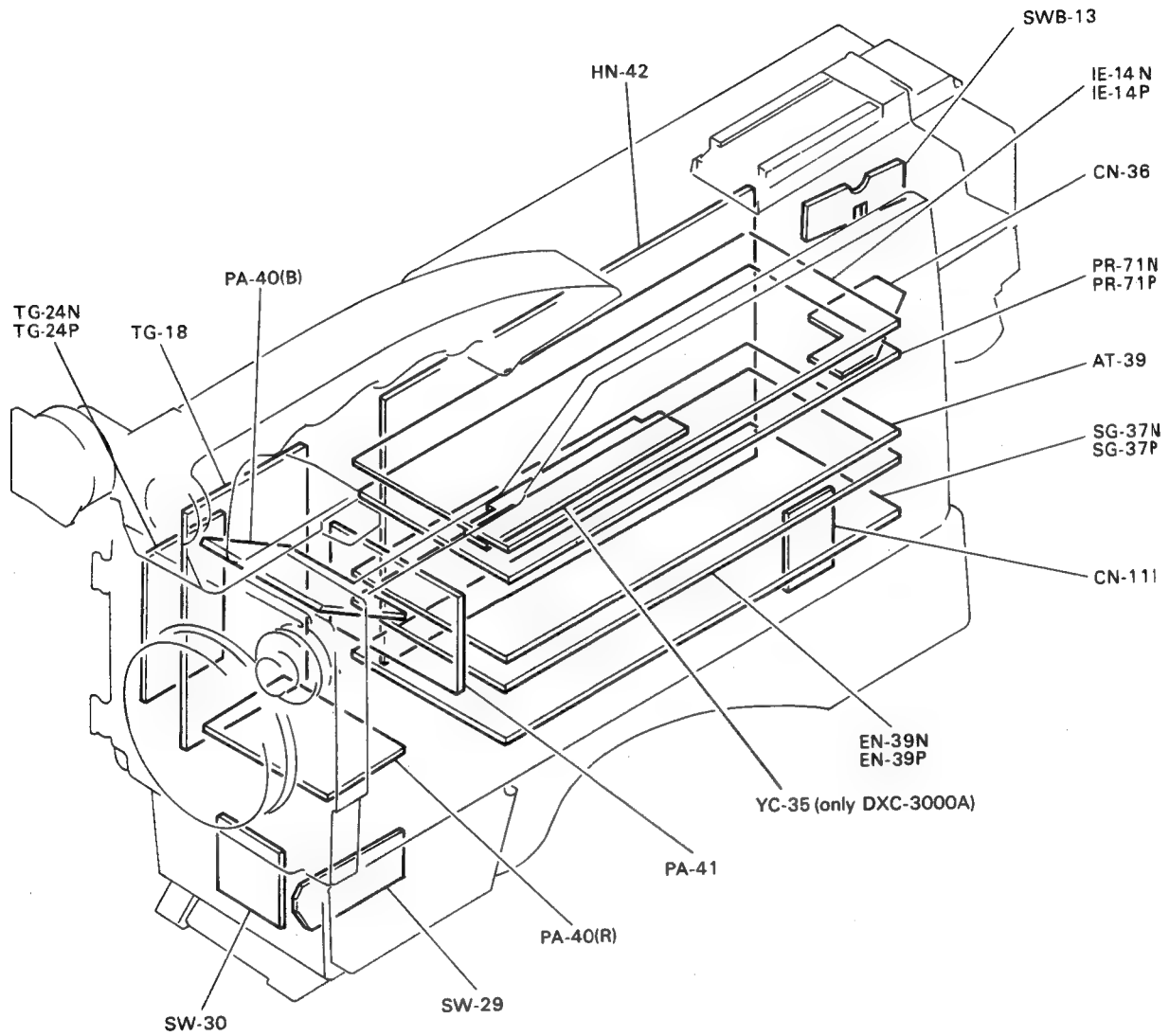
Specification: Four negative peaks corresponding to four black stripes must appear at the 520 TV lines (DXC-3000), or 560 TV lines (DXC-3000A) position "B" of the resolution chart on the monitor.

The CCD device has 510 picture elements in the horizontal line. When the vertical black stripes corresponding to 520 TV lines (or 560 TV lines) are optically positioned between each element in the CCD, the black stripes do not appear on the monitor. It seems that the resolution has been reduced. In this case, pan the camera slightly so that the best resolution is obtained.

Note: When the specification is not satisfied, perform 3-9. Resolution Adjustment.



### 3-3. BOARD ARRANGEMENT

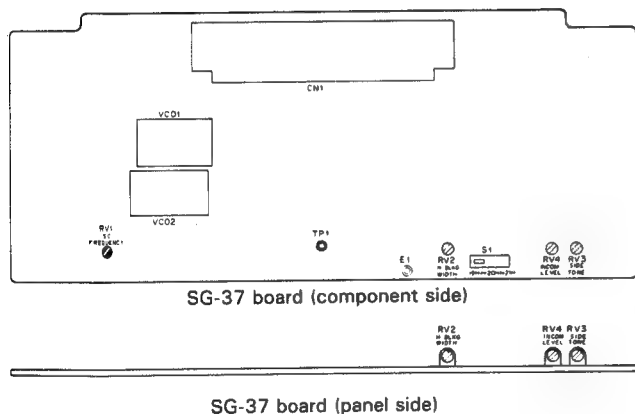


3. ALIGNMENT

### 3-4. SYNC SIGNAL SYSTEM (SG-37 BOARD)

#### 3-4-1. Sub carrier frequency adjustment

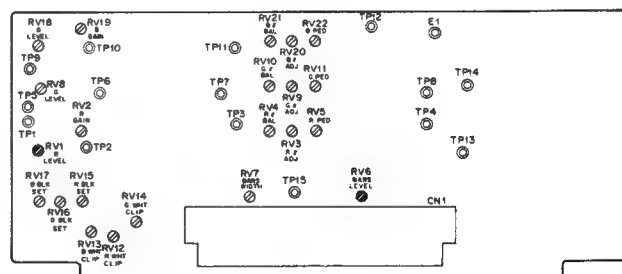
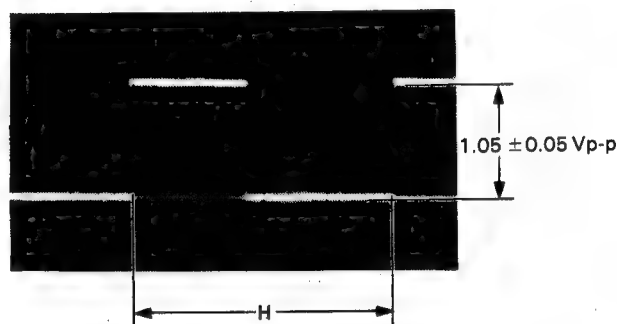
Equipment: Frequency counter  
To be extended: SG-37 board  
Test point: TP 1 (GND: E1)/SG 37 board  
Adjustment point: RV1/SG-37 board  
Specification: 3,579,545 Hz  $\pm$  30 Hz



### 3-5. ENCODER SYSTEM (PR-71, EN-39 BOARD)

#### 3-5-1. BARS level adjustment

Equipment: Oscilloscope  
To be extended: PR-71 board  
Preparation: Set the BARS WB switch on the side of camera to BARS.  
Test point: TP8 (GND: E)/extension board  
Trigger: HD (A6 on the extension board)  
Adjustment point: RV6/PR-71 board  
Specification: 1.05 V  $\pm$  0.05 Vp-p



PR-71 board (component side)



### 3-5-4. Color vector adjustment

Equipment: Vectorscope

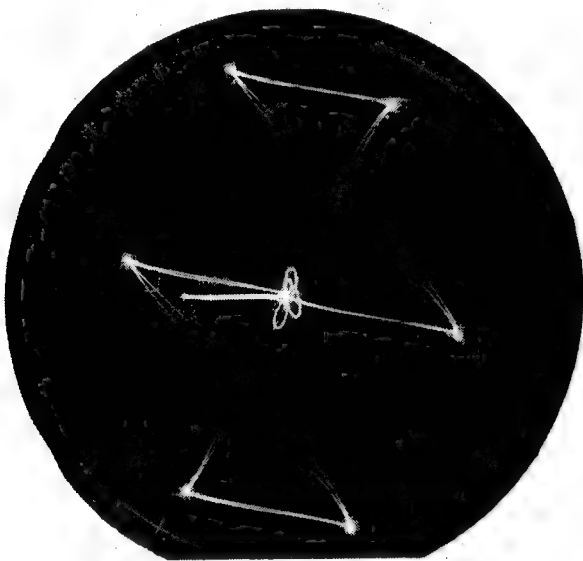
To be extended: EN-39 board

Preparation: Set the GAIN switch on the vectorscope to 75%.

Adjust "PHASE" control on the vectorscope so that the burst spot is set to the 75% axis. Set the BARS WB switch on the side of camera to BARS.

Adjustment:

1. Adjust  $\odot$  RV6/EN-39 board so that the burst level is set to the 75% position.
2. Adjust  $\odot$  RV4,  $\odot$  RV5,  $\odot$  RV7, and  $\odot$  LV1/EN-39 board so that the beam spots of each color are inside the "E" mark.



### 3-5-5. Zebra adjustment

Equipment: Viewfinder

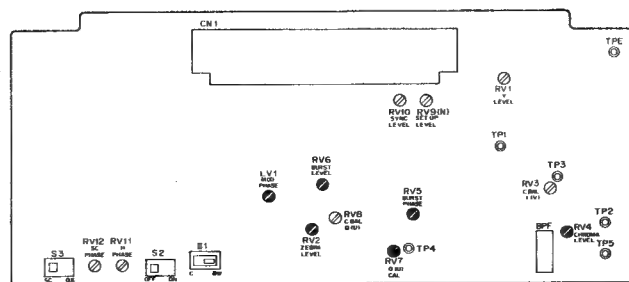
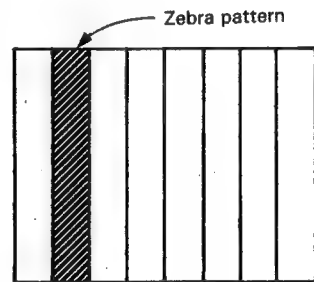
To be extended: EN-39 board

Preparation: Set the BARS WB switch on the side of camera to BARS.

Set the S2 (ZEBRA ON/OFF) switch on the EN-39 board to ON.

Adjustment:

Adjust  $\odot$  RV2/EN-39 board so that a zebra pattern appears at the yellow portion ( $70 \pm 2$  IRE) of color bar.



EN-39 board (component side)



### 3-5-6. H BLKG width adjustment

Object: White pattern

Equipment: Waveform monitor

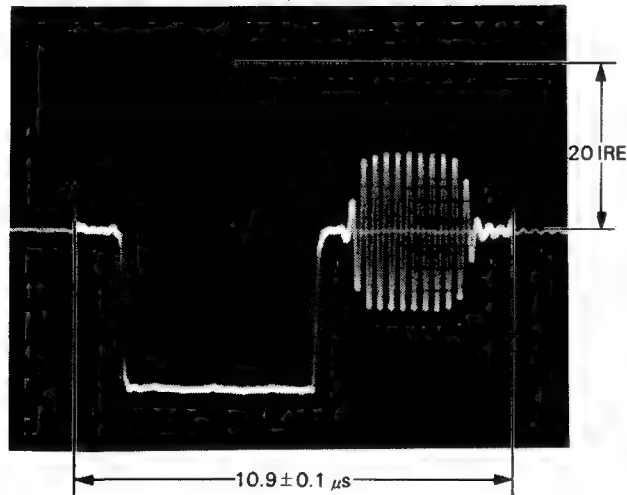
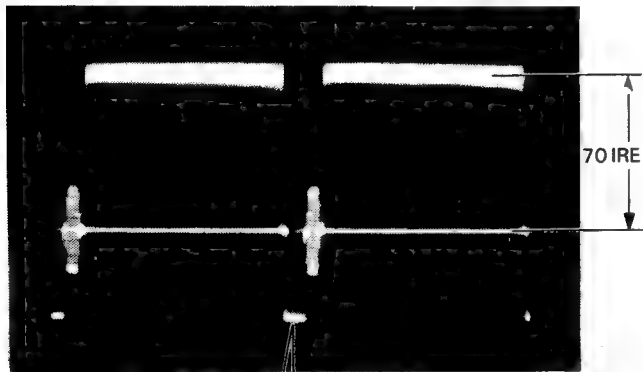
To be extended: PR-71 board

Preparation: Set the BARS WB switch on the side of the camera to 3200°K.

Trigger: HD (A6/extension board)

Adjustment:

1. Adjust the zoom control at TELE so that the white pattern frame touches the underscanned picture frame on the screen.
2. Adjust the iris control so that the white level is 70 IRE.
3. Adjust  $\odot$  RV2/SG-37 board so that blanking width "A" of 20 IRE video level is  $10.9 \pm 0.1 \mu\text{s}$ .



SG-37 board (panel side)

### 3-5-7. Color bar size adjustment

Equipment: Oscilloscope

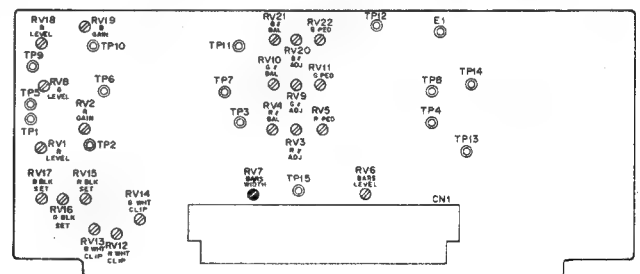
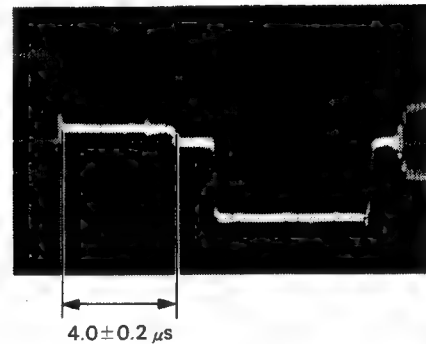
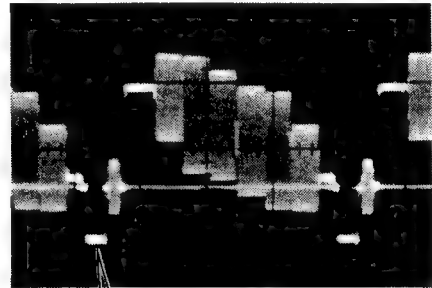
To be extended: PR-71 board

Preparation: Set the BARS WB switch on the side of the camera to BARS.

Test point: VIDEO OUT (BNC)

Trigger: HD (A6/extension board)

Adjustment: Adjust  $\odot$  RV7/PR-71 board so that the black level width of the color bar signal is  $4.0 \pm 0.2 \mu\text{s}$ .



PR-71 board (component side)

### 3-5-8. S-VHS VTR-Y Level adjustment (only DXC-3000A)

Note: Before this adjustment, carry out 3-5-4. Color vector adjustment.

Equipment: Waveform monitor

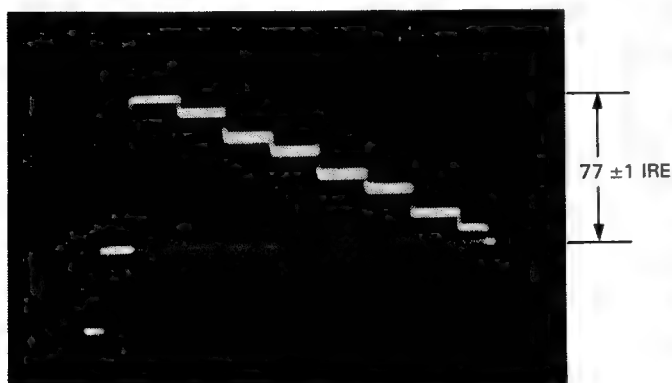
To be extended: EN-39 board

Preparation: Set the BARS WB switch on side of camera to BARS.

Set the S1 (YC/ENC) switch on the EN-39 board to YC.

Adjustment:

Adjust  $\text{RV1/YC-35}$  board so that the white level of Y signal at waveform monitor is  $77 \pm 1$  IRE.



### 3-5-9. S-VHS VTR-Chroma Level adjustment (only DXC-3000A)

Note: Before this adjustment, carry out 3-5-4. Color vector adjustment.

Equipment: Oscilloscope

To be extended: EN-39 board

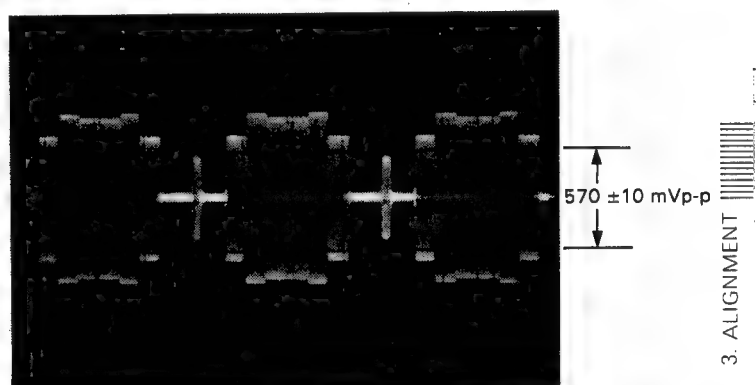
Preparation: Set the BARS WB switch on side of camera to BARS.

Set the S1 (YC/ENC) switch on the EN-39 board to YC.

Test point: 11 pin (GND: 7pin)/CCQ connector at CMA-7 or CMA-8

Adjustment:

Adjust  $\text{RV2/YC-35}$  board so that the burst level in the chroma signal is  $570 \pm 10$  mVp-p.



### 3. ALIGNMENT I

Object: White pattern

Equipment: Oscilloscope

**Preparation:** Set the BAR

**Preparation:** Set the BARS WB switch on the side of the camera to 3200°K

**Test point:** TP 7 (GND: E1)/PR-71 board

Trigger: VD (A25/extension board)

Adjustment:

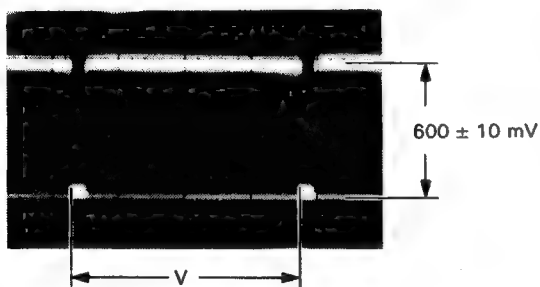
1. Adjust the zoom control so that the white pattern frame touches the underscanned picture frame on the screen.



2. Set the lens iris so that the video level at TP5/PR-71 board is  $400 \pm 10$  mV (iris F  $\approx$  5.6).

**Note:** When the iris control is set from 5.6 to open, confirm the brightness of the pattern box (PTB-100/500).

3. Adjust  RV8/PR-71 board so that the video level at TP7/PR-71 board is  $600 \text{ mV} \pm 10 \text{ mV}$ .



**Note:** Carry out this adjustment through 3-6-3. Reach video level adjustment keeping the iris control set to F5.6.



**Note:** Be sure to carry out 3-6-1. G ch video level adjustment before this adjustment.

**Object:** White pattern

**Equipment:** Oscilloscope

To be extended: PR-71 board

**Preparation:** Set the BARS WB switch on the side of the camera to 3200°K.

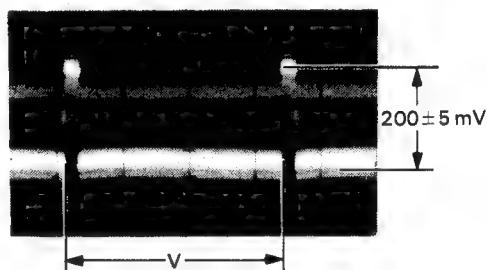
Trigger: VD (A25/extension board)

**Adjustment:**

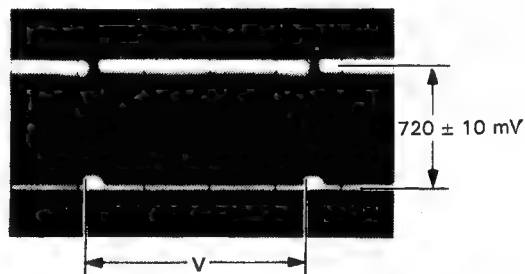
1. Adjust the zoom control so that the white pattern frame touches the underscanned picture frame on the monitor.



2. Adjust  RV18/PR-71 board so that the video level at TP-10 on the PR-71 board is  $200\text{ mV} \pm 5\text{mV}$ .



- Adjust  RV19 on the PR-71 board so that video level at TP11 on the PR-71 board is  $720 \text{ mV} \pm 10 \text{ mV}$ .



### 3-6-3. Rch video level and pre-gain adjustment

Note: Be sure to carry out 3-6-2. B ch level adjustment before this adjustment.

Object: White pattern

Equipment: Oscilloscope

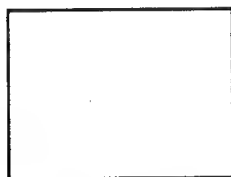
Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Test point: TP2 (GND;E1)/PR-71 board

Trigger: VD (A25/extension board)

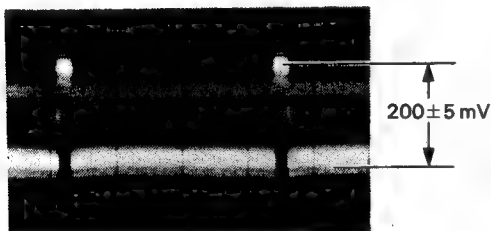
Adjustment:

1. Adjust the zoom control so that the white pattern frame touches the underscanned picture frame on the screen.

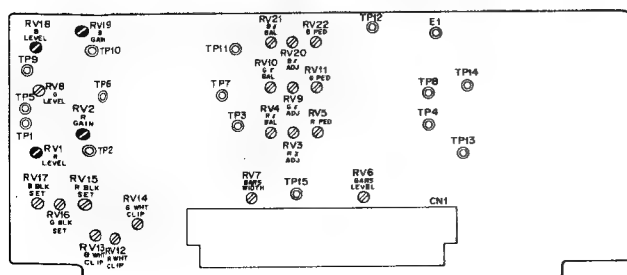
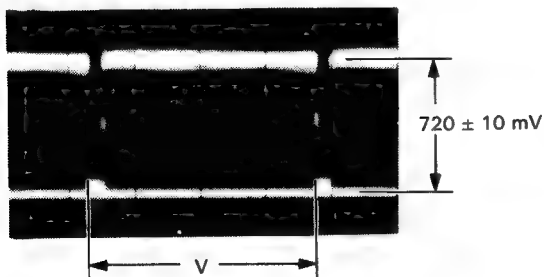


Monitor screen

2. Adjust RV1/PR-71 board so that the video level at TP 2/PR-71 board is  $200 \text{ mV} \pm 5 \text{ mV}$ .



3. Adjust RV2/PR-71 board so that the video level at TP 3/PR-71 board is  $720 \text{ mV} \pm 10 \text{ mV}$ .



PR-71 board (component side)

### 3-6-4. IE-APC Adjustment

Object: White pattern

Equipment: Oscilloscope

To be extended: IE-14 board

Preparation: Set the BARS WB switch on the side of the camera to 3200°K

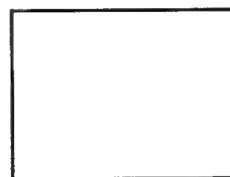
Set the iris control to F5.6

Test point: TP 1 (GND: E1)/IE-14 board

Trigger: HD (A22/extension board)

Adjustment:

1. Adjust the zoom control so that the white pattern frame touches the underscanned picture frame on the monitor.

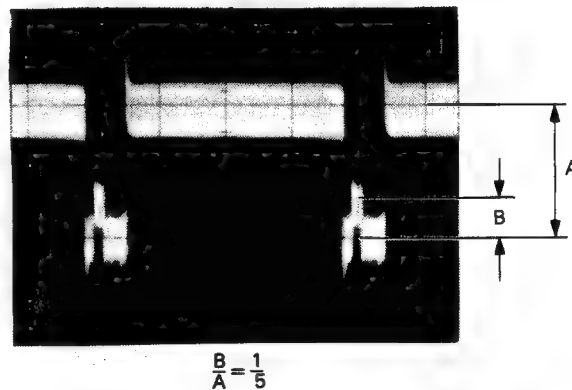


Monitor screen

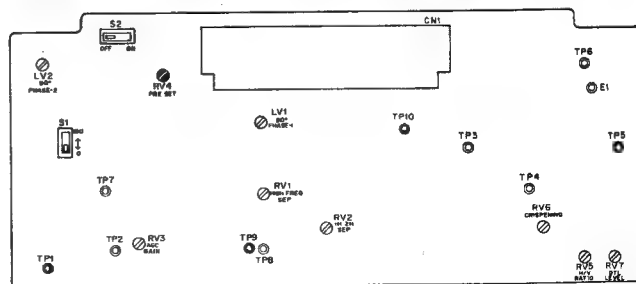
2. Set the lens iris so that the video level at TP5/PR-71 board is  $400 \pm 10 \text{ mV}$ .

3. Connect TP 9 to TP 10 (−5 V) on the IE-14 board.

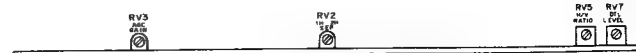
4. Adjust RV 4/IE-14 board so that the ratio of "A" level to "B" level is 5 to 1.



$$\frac{B}{A} = \frac{1}{5}$$



IE-14 board (component side)



IE-14 board (panel side)

### 3-6-5. IE•1H/2H SEP adjustment

Object: White pattern

Equipment: Oscilloscope

To be extended: PR-71 board

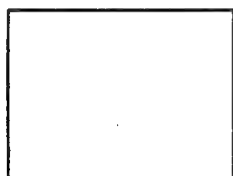
Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Test point: TP 2/IE-14 board (GND: E1/PR-71 board)

Trigger: VD (A25/extension board)

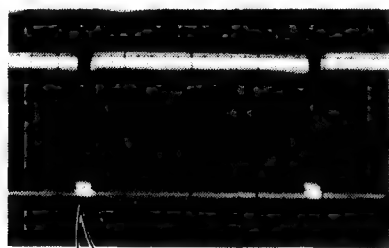
Adjustment:

1. Adjust the zoom control so that the white pattern frame touches the underscanned picture frame on the monitor.



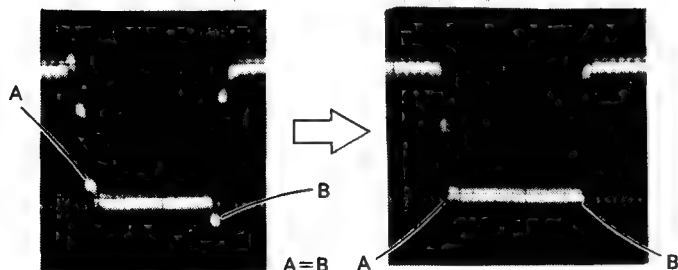
Monitor screen

2. Set the lens iris so that the video level at TP5/PR-71 board is  $400 \pm 10$  mV.
3. Adjust  $\odot$  RV 2/IE-14 board so that the left and right sides of the V BLKG are equal.



(Bad)

(Good)



### 3-6-6. IE•AGC gain adjustment

Object: White pattern

Equipment: Oscilloscope

To be extended: PR-71 board

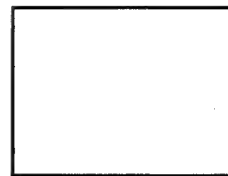
Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Test point: B15 (GND: A1)/extension board

Trigger: VD (A25/extension board)

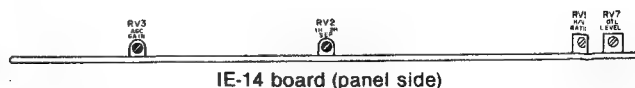
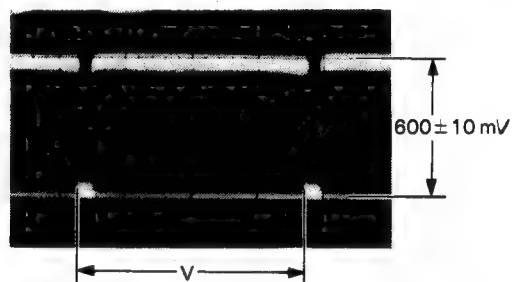
Adjustment:

1. Adjust the zoom control so that the white pattern frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Set the lens iris so that the video level at TP5/PR-71 board is  $400 \pm 10$  mV.
3. Adjust the  $\odot$  RV3/IE-14 board so that the video level at B15/extension board is  $600 \text{ mV} \pm 10 \text{ mV}$ .



IE-14 board (panel side)

### 3-6-7. Black set and pedestal adjustments

Lens iris: Close "C"

Equipment: Oscilloscope, Vectorscope (MAX GAIN)

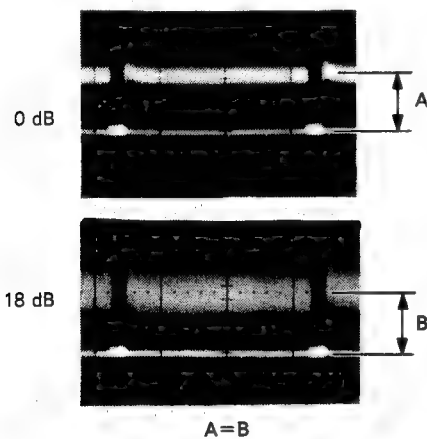
To be extended: PR-71 board

Test point: TP 8 (GND: E1)/PR71 board (Connect a 10 K ohm resistor between the oscilloscope probe and TP 8)

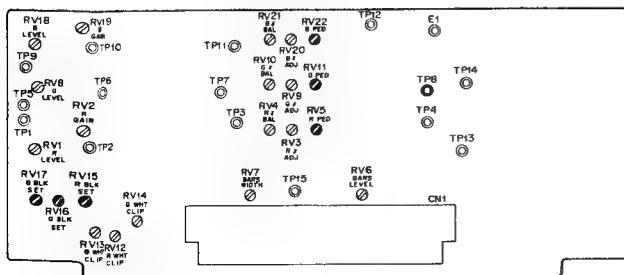
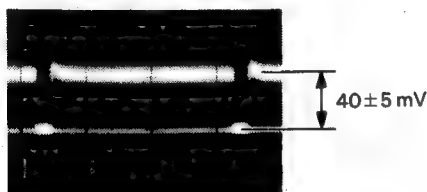
Trigger: VD (A25/extension board)

Adjustment:

1. Adjust  $\odot$  RV16/PR-71 board so that pedestal level does not change when the GAIN switch on the side of the camera is switched over from 0 dB to 18 dB.



2. Set the GAIN switch on the side of the camera to 0 dB.
3. Adjust  $\odot$  RV11/PR-71 board so that the pedestal level is  $40 \pm 5$  mV.

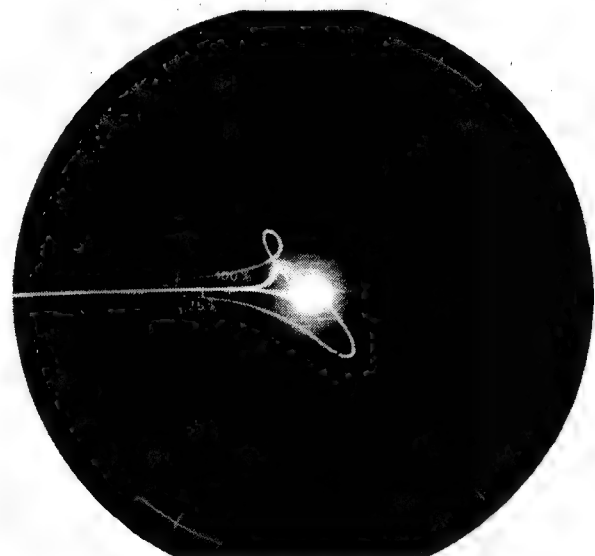


PR-71 board (component side)

4. Set the GAIN switch on the side of the camera to 18 dB.
5. Adjust  $\odot$  RV15  $\odot$  RV17 on the PR-71 board so that the beam spot is in the center of the vectorscope.



6. Set the GAIN switch on the side of the camera to 0 dB.
7. Adjust  $\odot$  RV5 and  $\odot$  RV22/PR-71 board so that the beam spot is in the center of vectorscope.



8. Repeat step 4 through step 7 several times.
9. Set the GAIN switch on the side of the camera to 0 dB

3. ALIGNMENT

### 3. ALIGNMENT

### 3-6-9. R ch gamma balance adjustment

Object: Grayscale chart

Equipment: Oscilloscope

To be extended: PR-71 board

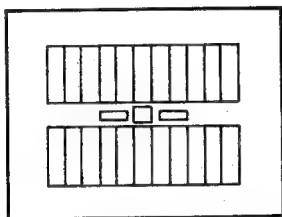
Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Test point: TP 4 (GND: E1)/PR-71 board

Trigger: HD (A6/extension board)

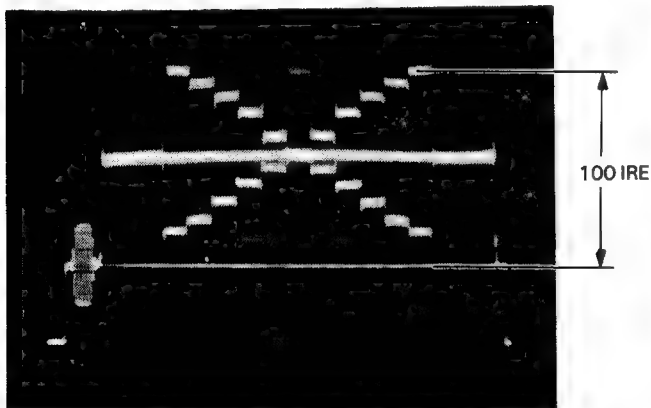
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.

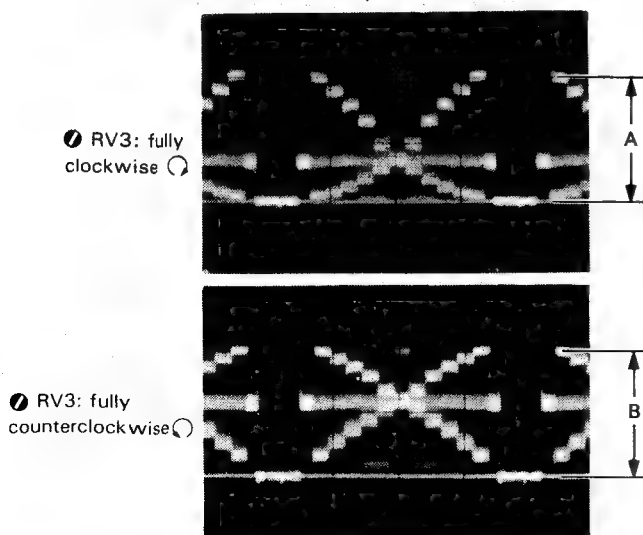


Monitor screen

2. Adjust the lens iris control so that the white level is 100 IRE on the Waveform monitor.



3. Adjust ⚙ RV4/PR-71 board so that the white level of the video signal at TP 4/PR-71 board does not change when ⚙ RV3/PR-71 board is turned either fully counterclockwise or fully clockwise.



DXC-3000 (UC)  
DXC-3000A (UC)

A=B

### 3-6-10. B ch gamma balance adjustment

Object: Grayscale chart

Equipment: Oscilloscope

To be extended: PR-71 board

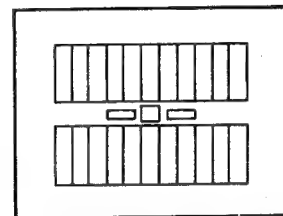
Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Test point: TP 12 (GND: E1)/PR-71 board

Trigger: HD (A6/extension board)

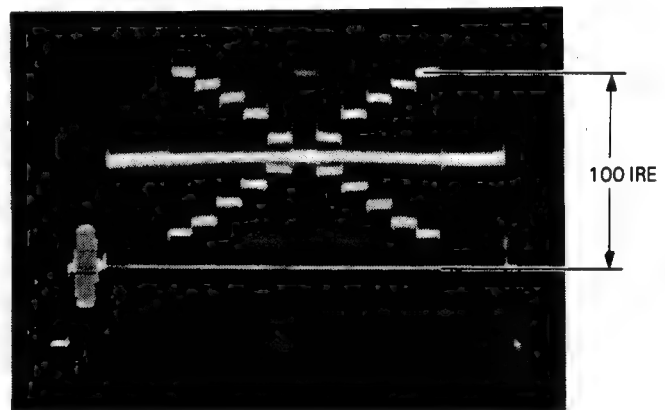
Adjustment:

1. Adjust the zoom control so that the Grayscale chart frame touches the underscanned picture frame on the monitor.

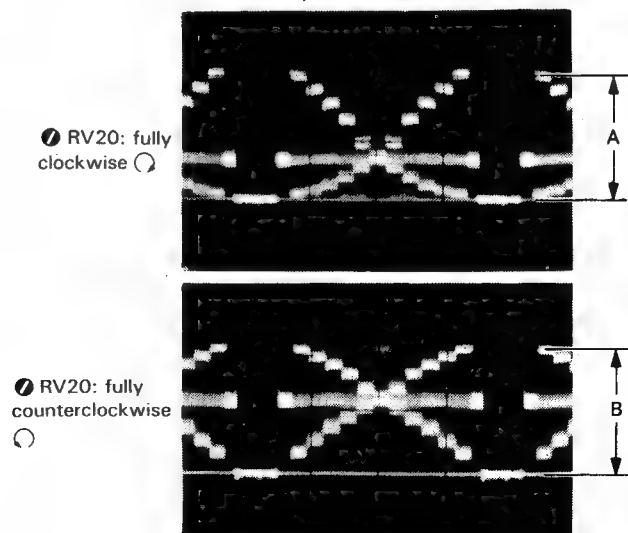


Monitor screen

2. Adjust the iris control so that the video level is 100 IRE on the waveform monitor.



3. Adjust ⚙ RV21/PR-71 board so that the white level of the video signal at TP12/PR-71 board does not change when ⚙ RV20/PR-71 board is turned either fully counterclockwise or fully clockwise.



A=B



### 3-6-11. R/B ch gamma set and preset adjustment

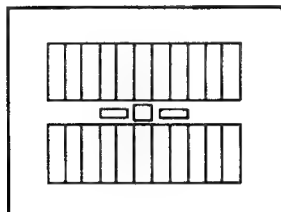
Object: Grayscale chart

Equipment: Waveform monitor, Vectorscope (MAX GAIN)

To be extended: PR-71 board

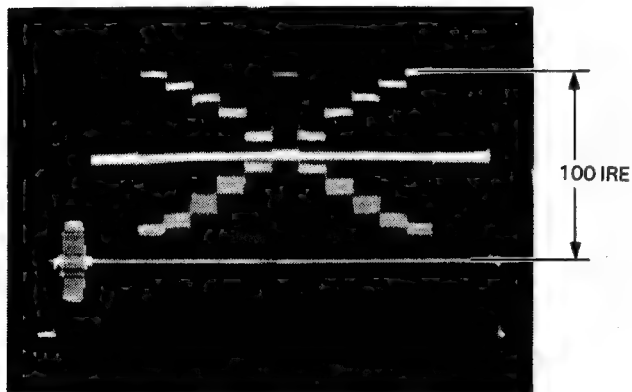
**Adjustment:**

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust the iris control so that the video level is 100 IRE on the waveform monitor.

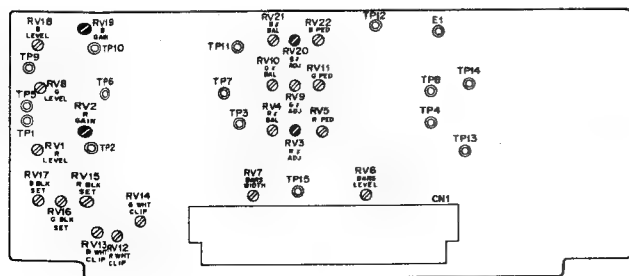
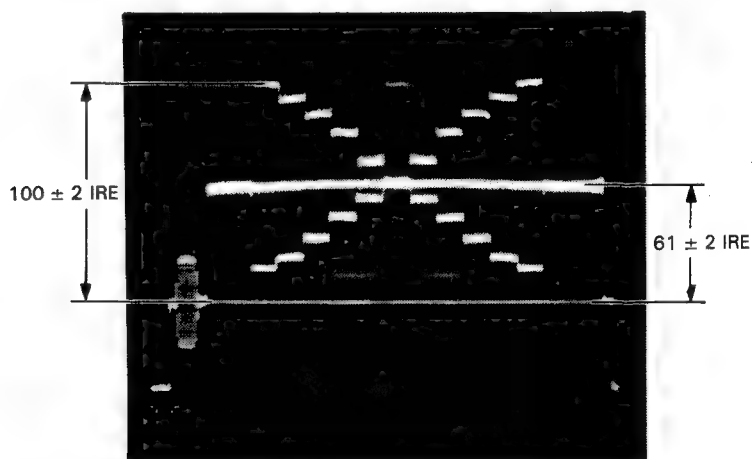


3.  $\bullet$  RV 2 (R GAIN) } /PR-71 board  
 $\bullet$  RV 19 (B GAIN) }  
 $\bullet$  RV 3 (R<sub>y</sub> ADJ) }  
 $\bullet$  RV 20 (B<sub>y</sub> ADJ) }

Alternately adjust the above four controls several times so that the beam spot is in the center of vectorscope.



4. After the adjustment, the following specifications must be satisfied.  
If not, perform from 3-6-1. B ch video level adjustment once more



PR-71 board (component side)

### 3-6-12. White clip adjustment

Object: Grayscale chart

Equipment: Waveform monitor

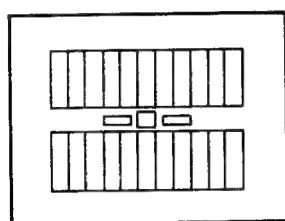
To be extended: PR-71 board

Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Set the GAIN switch on the side of the camera to 0 dB

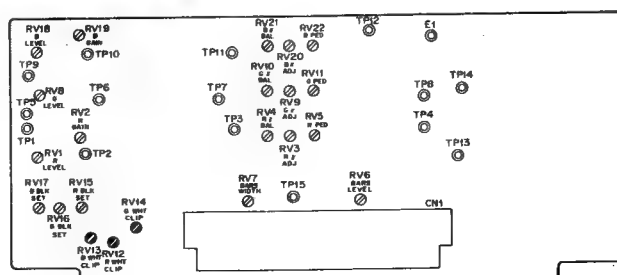
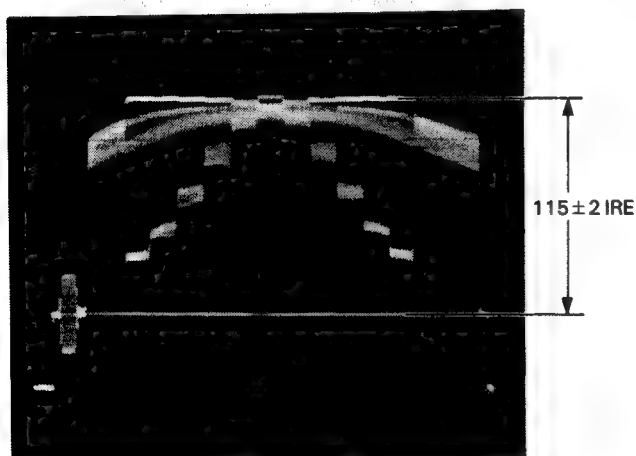
Adjustment:

1. Adjust the zoom control so that grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Set the iris control to OPEN.
3. Adjust RV12 and RV13/PR-71 board several times so that the carrier leakage of the white peak level is minimized.
4. Adjust RV14/PR-71 board so that the white peak level is  $115 \pm 2$  IRE on the waveform monitor.



PR-71 board (component side)

### 3-7. IMAGE ENHANCER SYSTEM ADJUSTMENT

Note: It is not necessary to adjust ⚙ RV1, ⚙ LV1 and ⚙ LV2 unless these controls are replaced.  
Do not touch these controls.

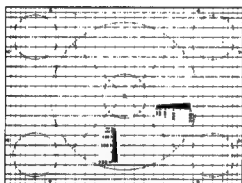
#### 3-7-1. Crispening adjustment

Object: Registration chart  
Equipment: Oscilloscope  
To be extended: IE-14 board  
Preparation: Set the BARS WB switch on the side of the camera to 3200°K  
Rotate ⚙ RV5 (H.V. RATIO)/IE-14 board fully clockwise

Test point: TP5 (GND: E1)/IE-14 board  
Trigger: HD (A22/extension board)

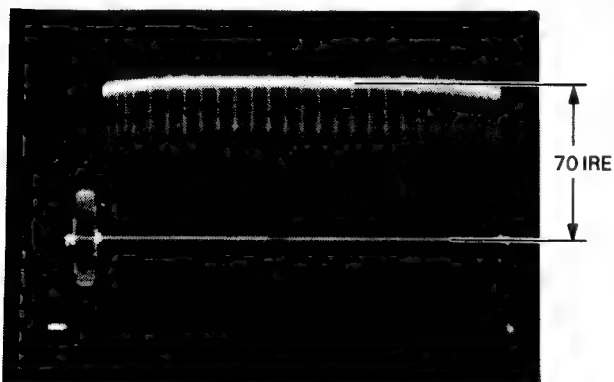
Adjustment:

1. Adjust the zoom control so that the registration chart frame touches the underscanned picture frame on the monitor.

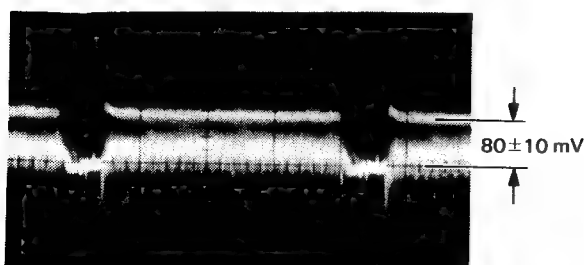


Monitor screen

2. Adjust the iris control so that the video level is 70 IRE on the waveform monitor.



3. Adjust ⚙ RV6/IE-14 board so that the level at TP5/IE-14 board is  $80 \pm 10$  mV. Connection of a 10 K ohm resistor between the oscilloscope probe and TP5 makes it easier to detect noise.

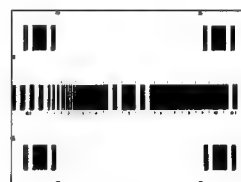


#### 3-7-2. H.V. RATIO adjustment

Object: Burst chart  
Equipment: B/W monitor screen  
To be extended: IE-14 board  
Preparation: Set the BARS WB switch on the side of the camera to 3200°K  
Rotate ⚙ RV7 (DTL LEVEL)/IE-14 board fully clockwise

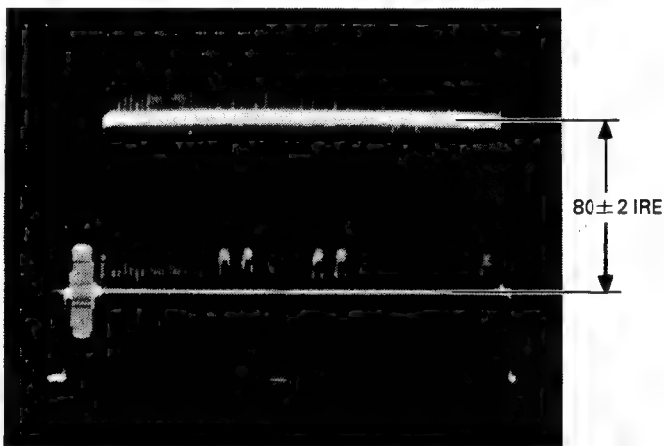
Adjustment:

1. Set the zoom control and shoot a burst chart.

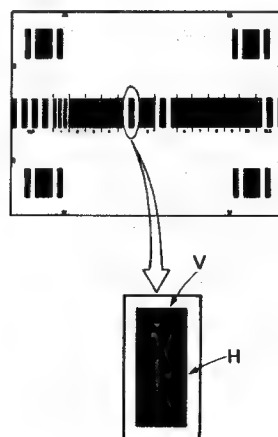


Monitor screen

2. Adjust the iris control so that the video level is  $80 \pm 2$  IRE on the waveform monitor.



3. Adjust ⚙ RV5/IE-14 board so that the overlapping detail ratio of H to V on the 0.5 MHz section of the burst chart is equal on the monitor.



### 3-7-3. Detail level adjustment

Object: Grayscale chart

Equipment: Waveform monitor

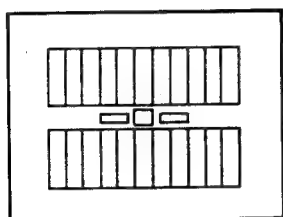
To be extended: IE-14 board

Preparation: Set the BARS WB switch on the side of the camera to 3200°K

Adjustment point: ● RV7/IE-14 board

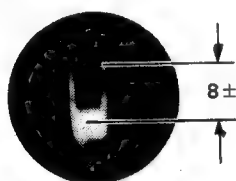
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



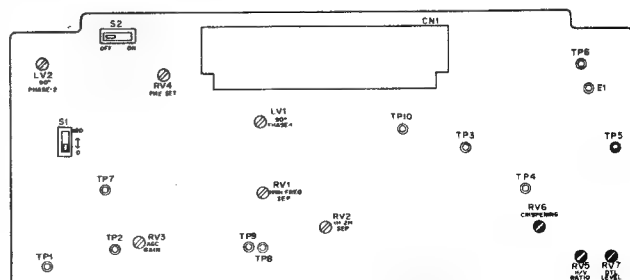
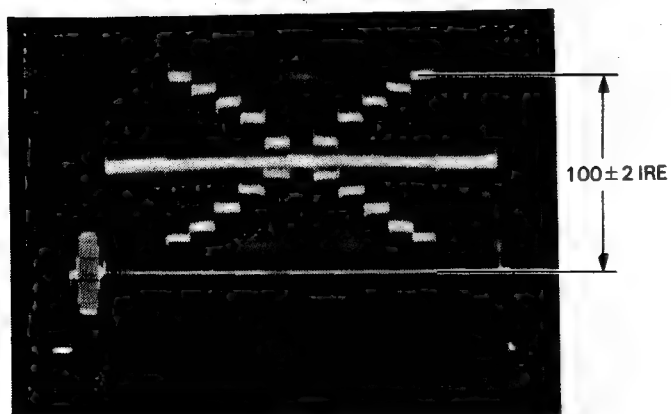
Monitor screen

2. Adjust the iris control so that the video output level is 100 IRE on the waveform monitor.
3. Adjust ● RV7/IE-14 board so that the smaller detail level at both ends of the white level is  $8 \pm 3$  IRE.

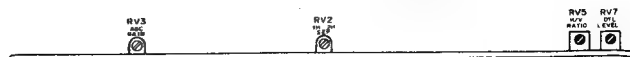


$8 \pm 3$  IRE

\* This value should be changed according to the users' requirements.



IE-14 board (component side)



IE-14 board (panel side)

### 3. ALIGNMENT

### 3-8-3. Auto iris adjustment

Object: Grayscale chart

Equipment: Waveform monitor

To be extended: AT-39 board

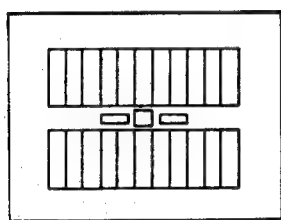
Preparation: Set the BARS WB switch on the side of the camera to 3200°K.

Set the iris control to AUTO.

Rotate  $\odot$  RV2 (IRIS MODE)/AT-39board fully clockwise  $\odot$ .

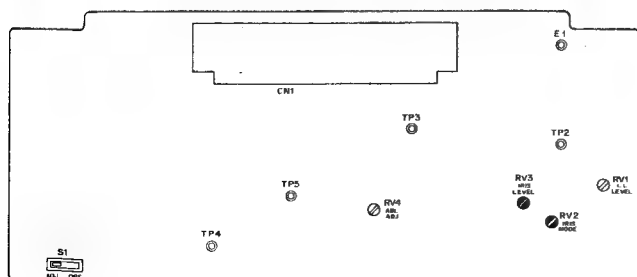
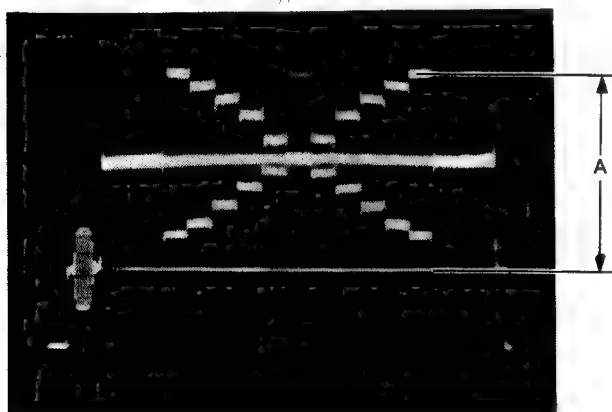
Adjustment:

1. Adjust the zoom control so that the grayscale chart frame touches the underscanned picture frame on the monitor.



Monitor screen

2. Adjust  $\odot$  RV3 (IRIS SET)/AT-39 board so that the white peak level "A" is  $100 \pm 2$  IRE.
3. Adjust  $\odot$  RV2 (IRIS MODE)/AT-39 board so that the white peak level "A" is  $100 \pm 2$  IRE.
4. Adjust  $\odot$  RV3 (IRIS SET)/AT-39 board so that the white peak level "A" is  $100 \pm 2$  IRE.



AT-39 board(component side)

### 3. ALIGNMENT: !!!!!!!!

### 3-10. INTERCOM SYSTEM (SG-37 BOARD)

#### 3-10-1. SIDE TONE adjustment

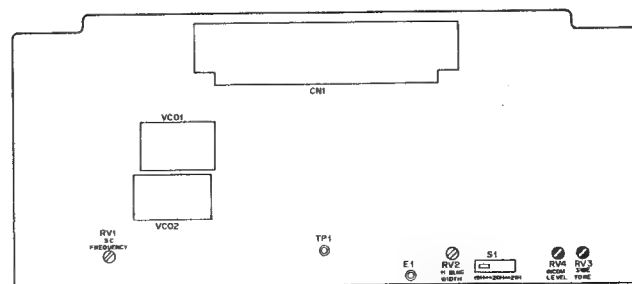
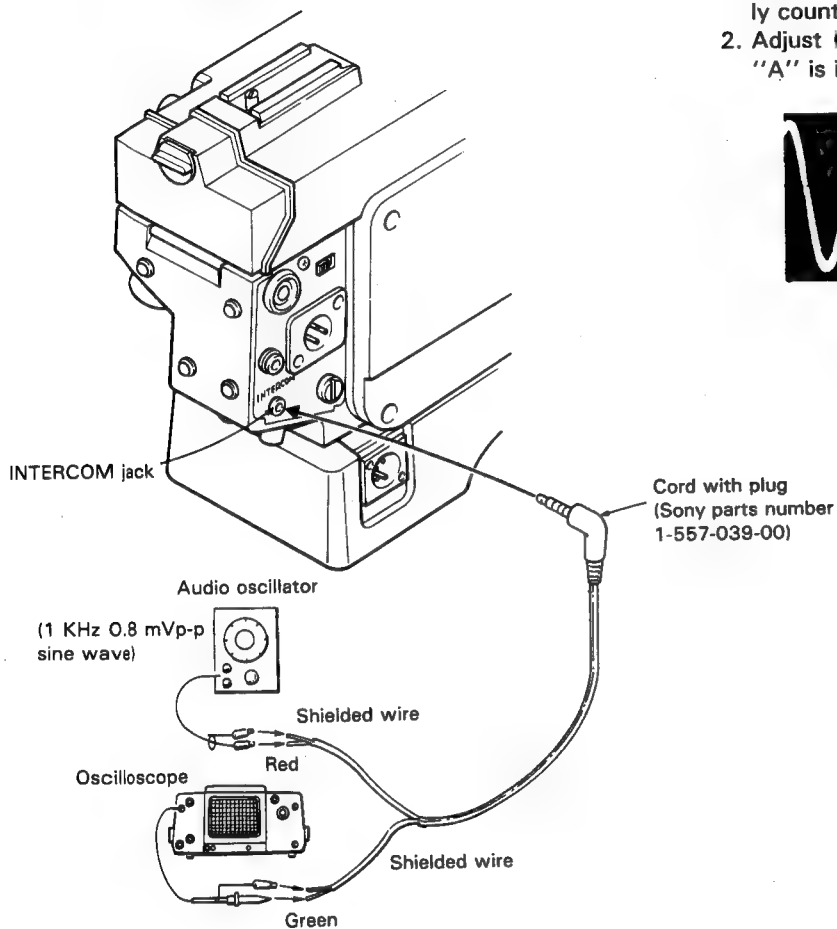
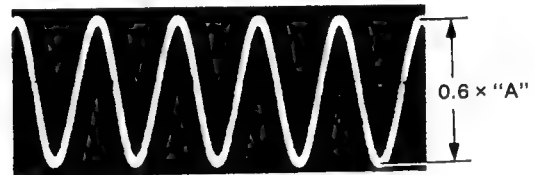
To be extended: SG-37 board  
Equipment/Connection:

Preparation: Rotate  $\odot$  RV4 on the SG-37 board fully clockwise  $\odot$ .

Adjustment point:  $\odot$  RV3/SG-37 board

Adjustment:

1. Measure the output level "A" when turning  $\odot$  RV3 fully counterclockwise.
2. Adjust  $\odot$  RV3 clockwise so that 60% of output level "A" is indicated.



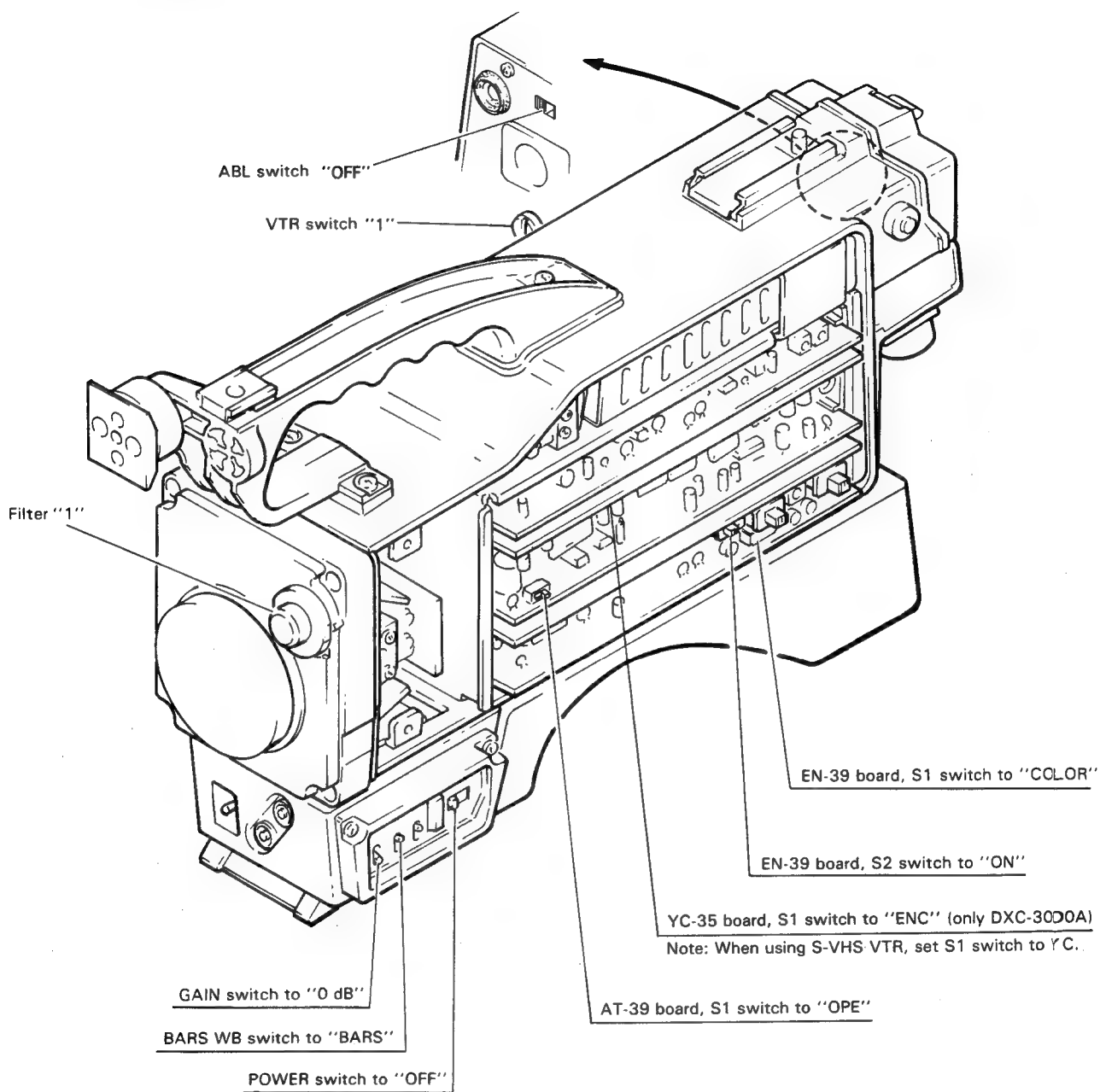
SG-37 board (component side)



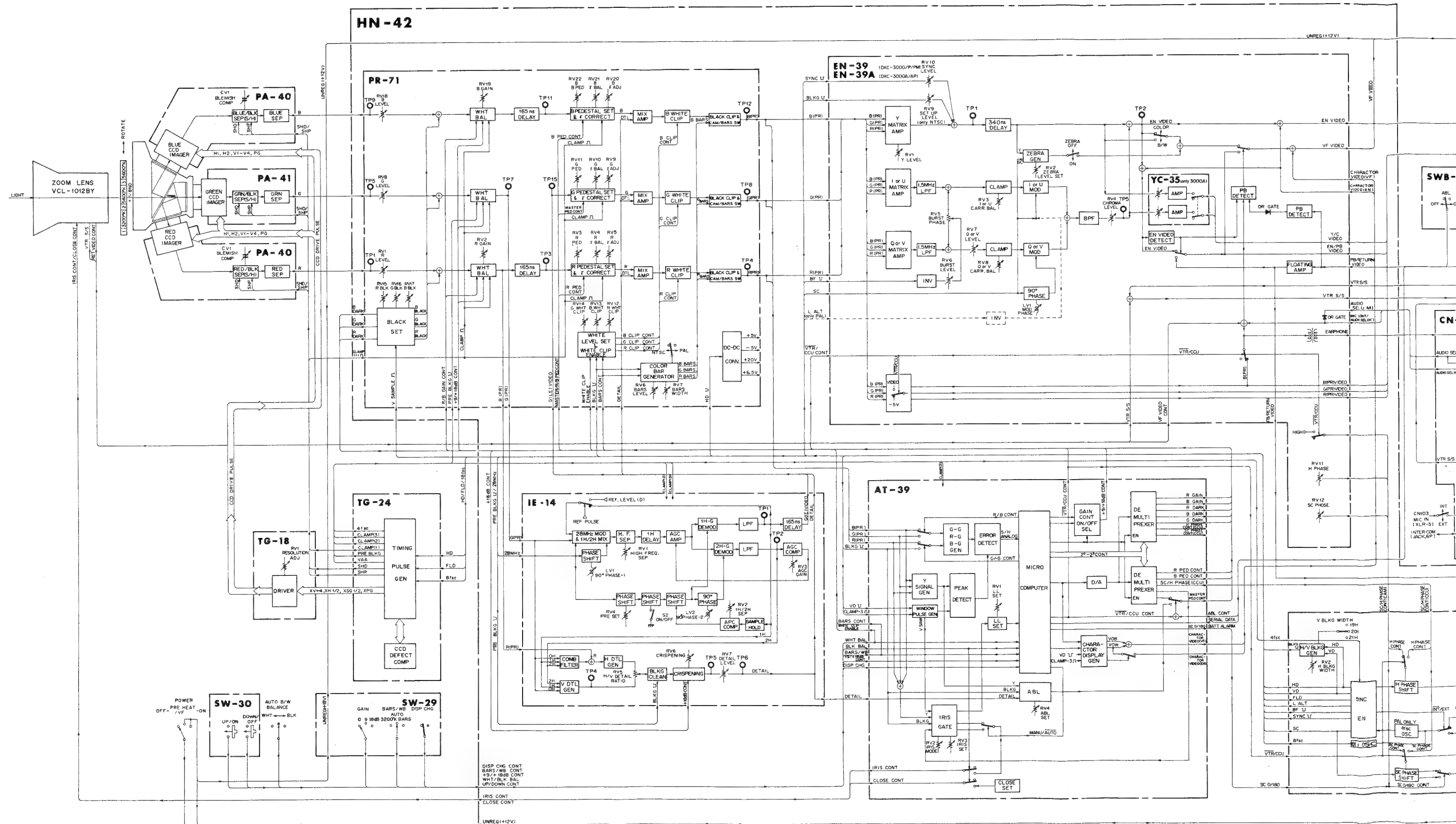
SG-37 board (panel side)

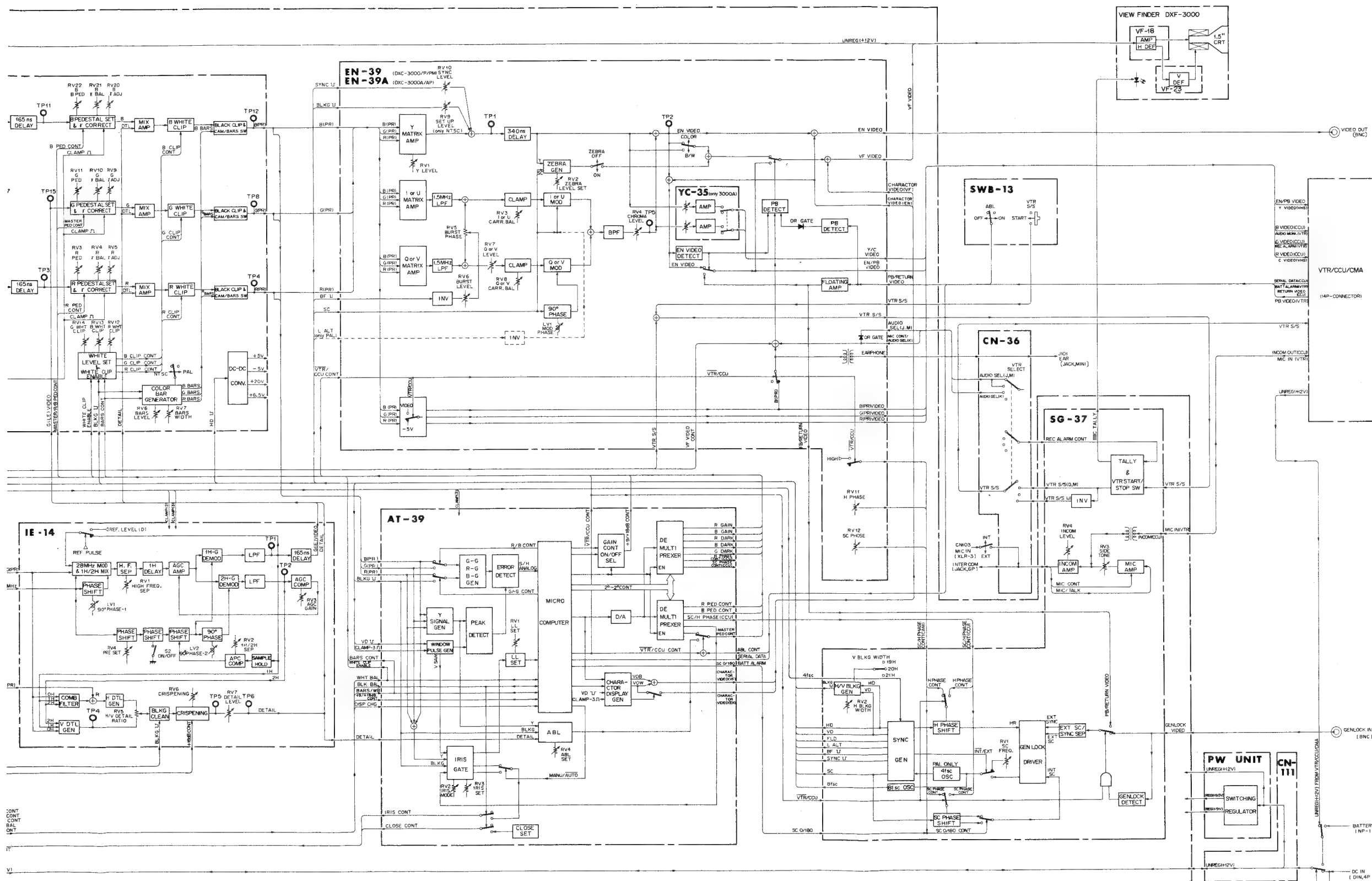


## FINAL SWITCH SETTINGS

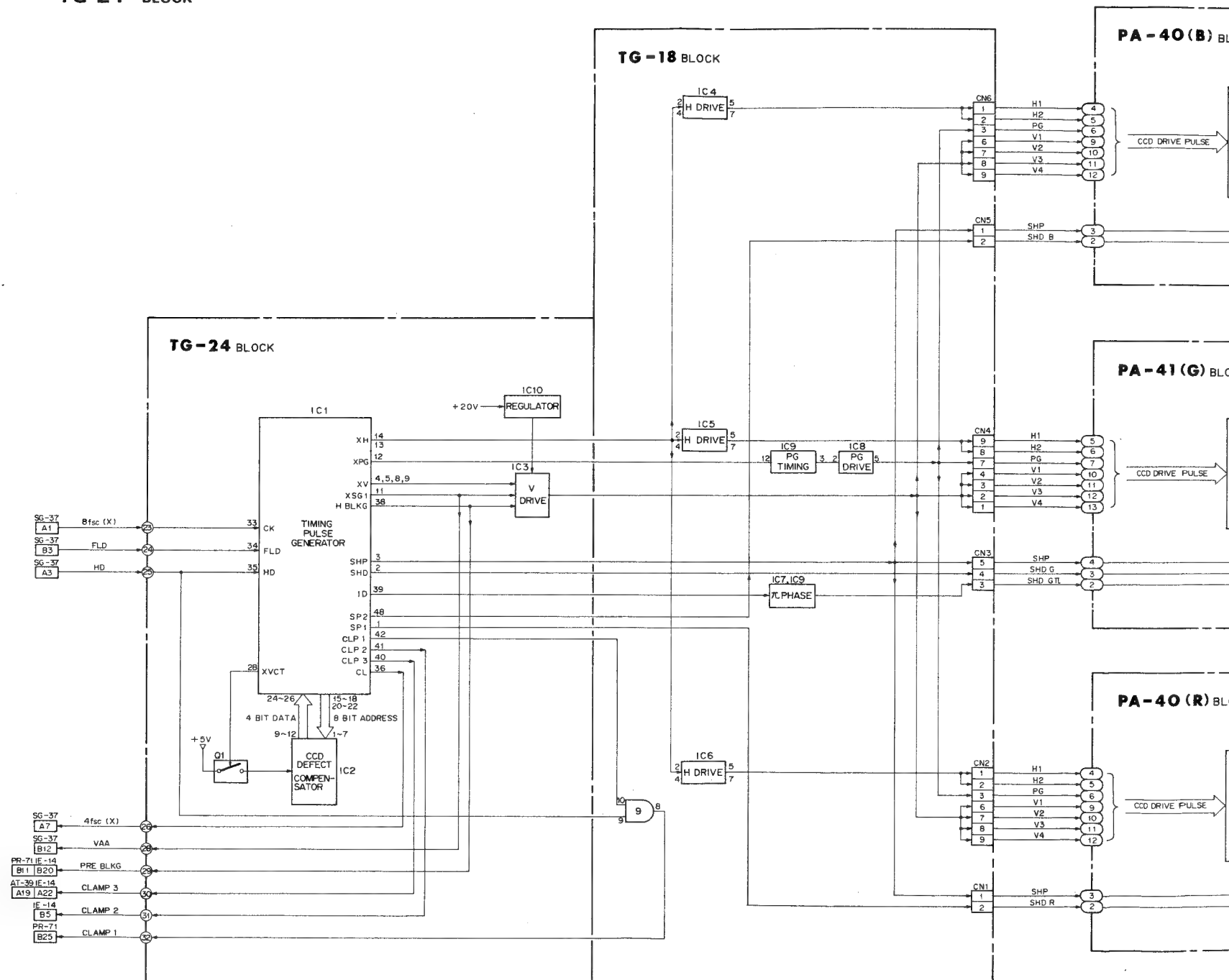


#### 4-1. BLOCK DIAGRAM

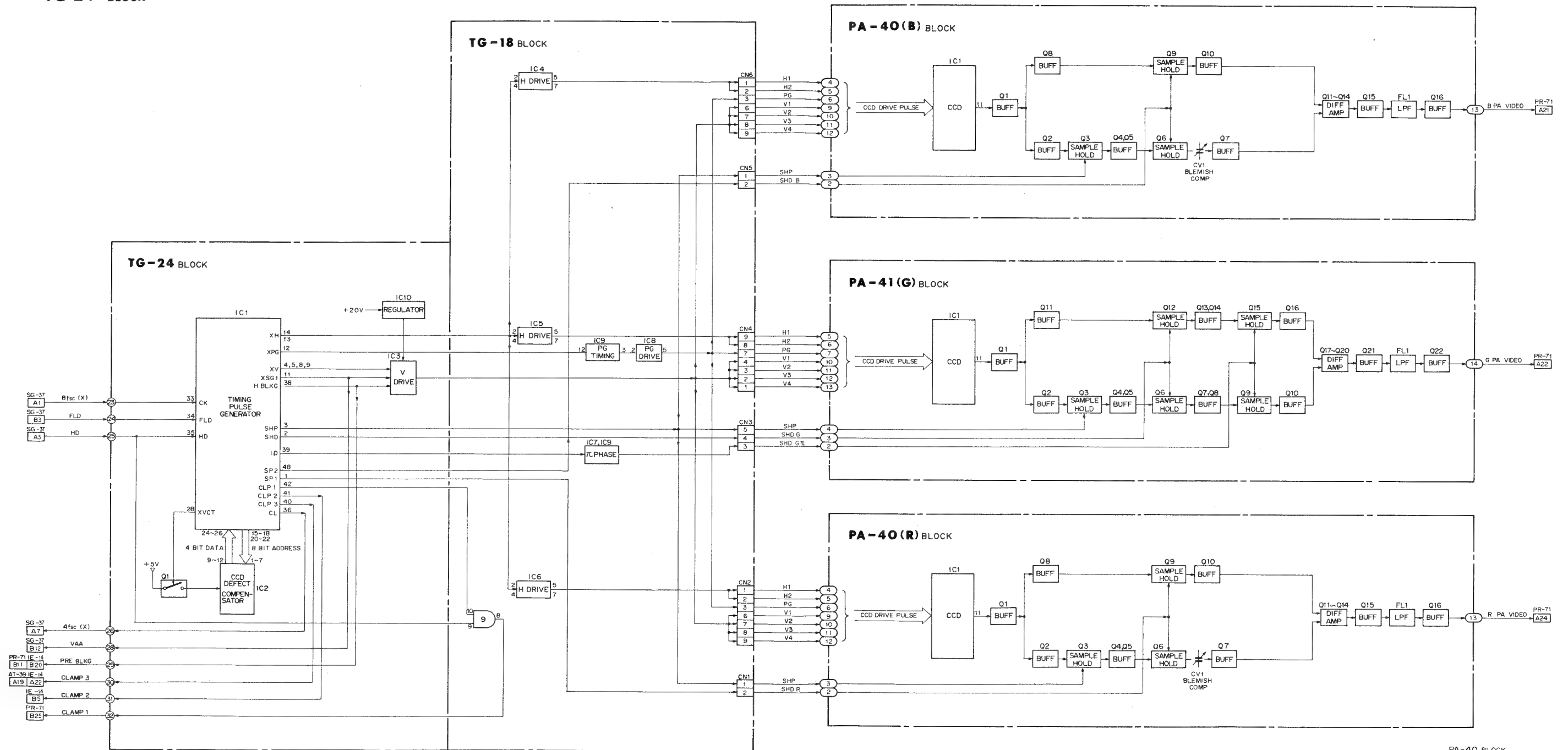




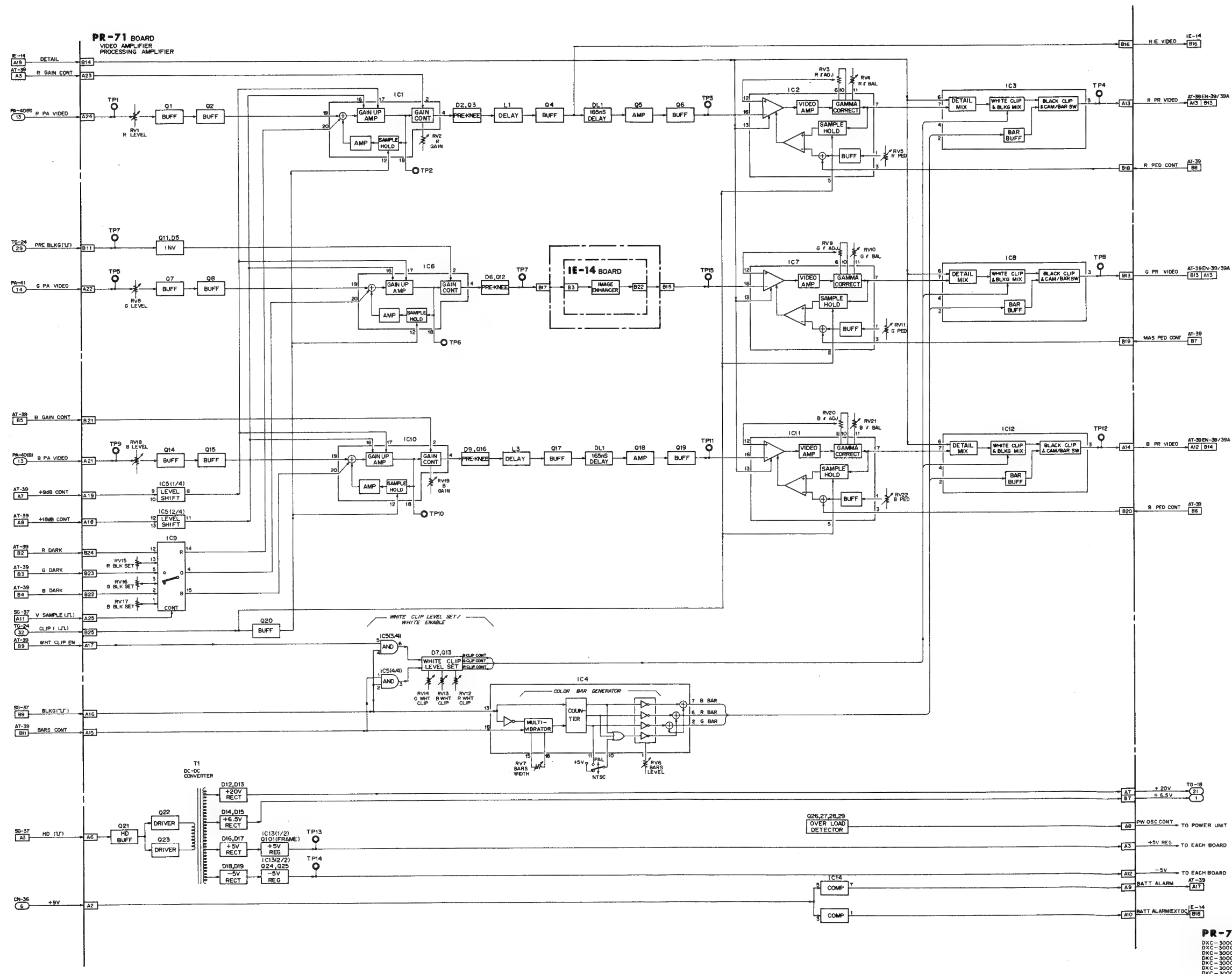
PA-40 BLOCK  
PA-41 BLOCK  
TG-18 BLOCK  
TG-24 BLOCK



PA-40 BLOCK  
PA-41 BLOCK  
TG-18 BLOCK  
TG-24 BLOCK



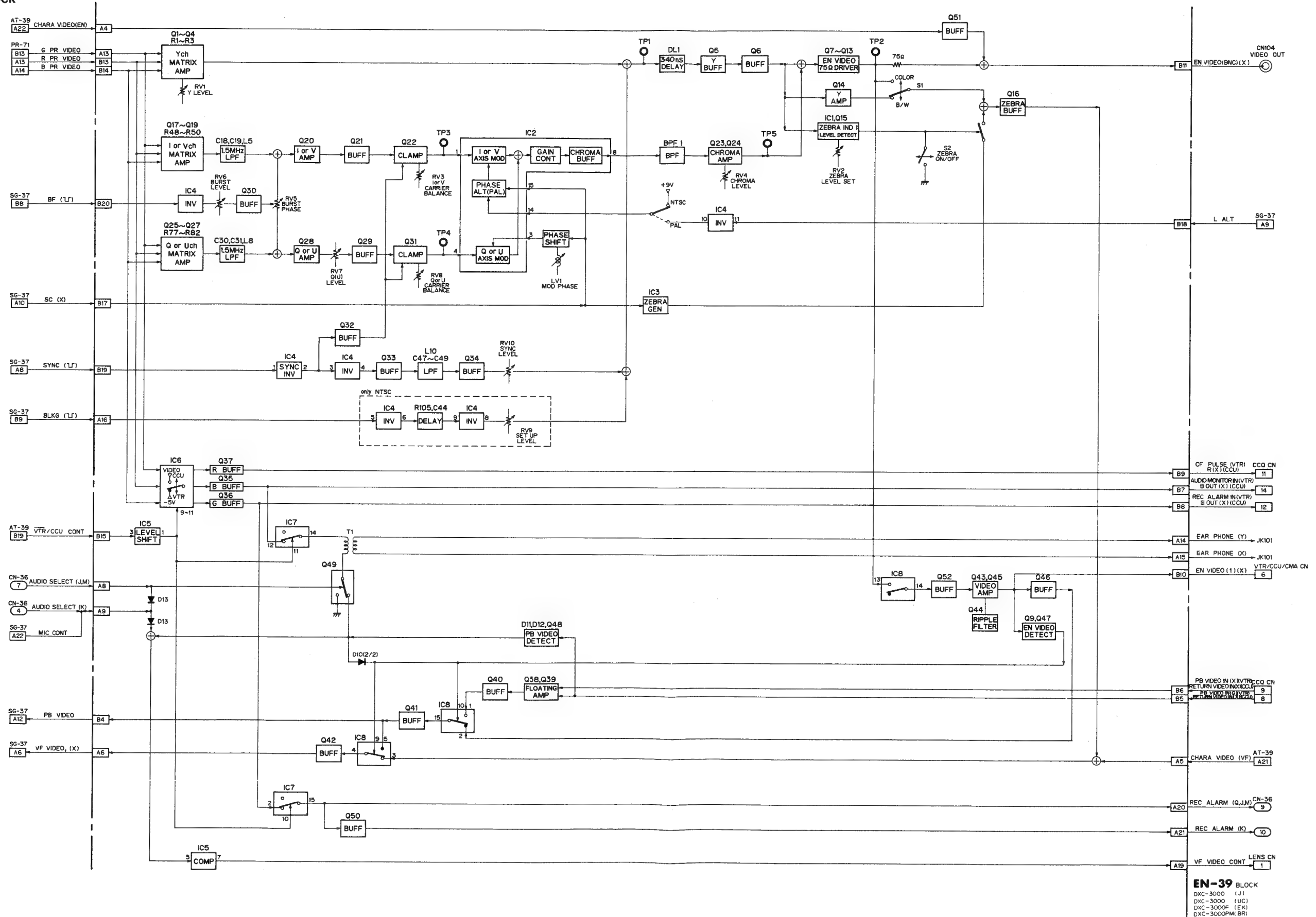
**PR-71 BLOCK**



**PR-71 BLOCK**

DXC-3000	(J)
DXC-3000	(UC)
DXC-3000P	(EK)
DXC-3000PM	(BR)
DXC-3000A	(J)
DXC-3000A	(UC)
DXC-3000AP	(EK)

## EN-39 BLOCK

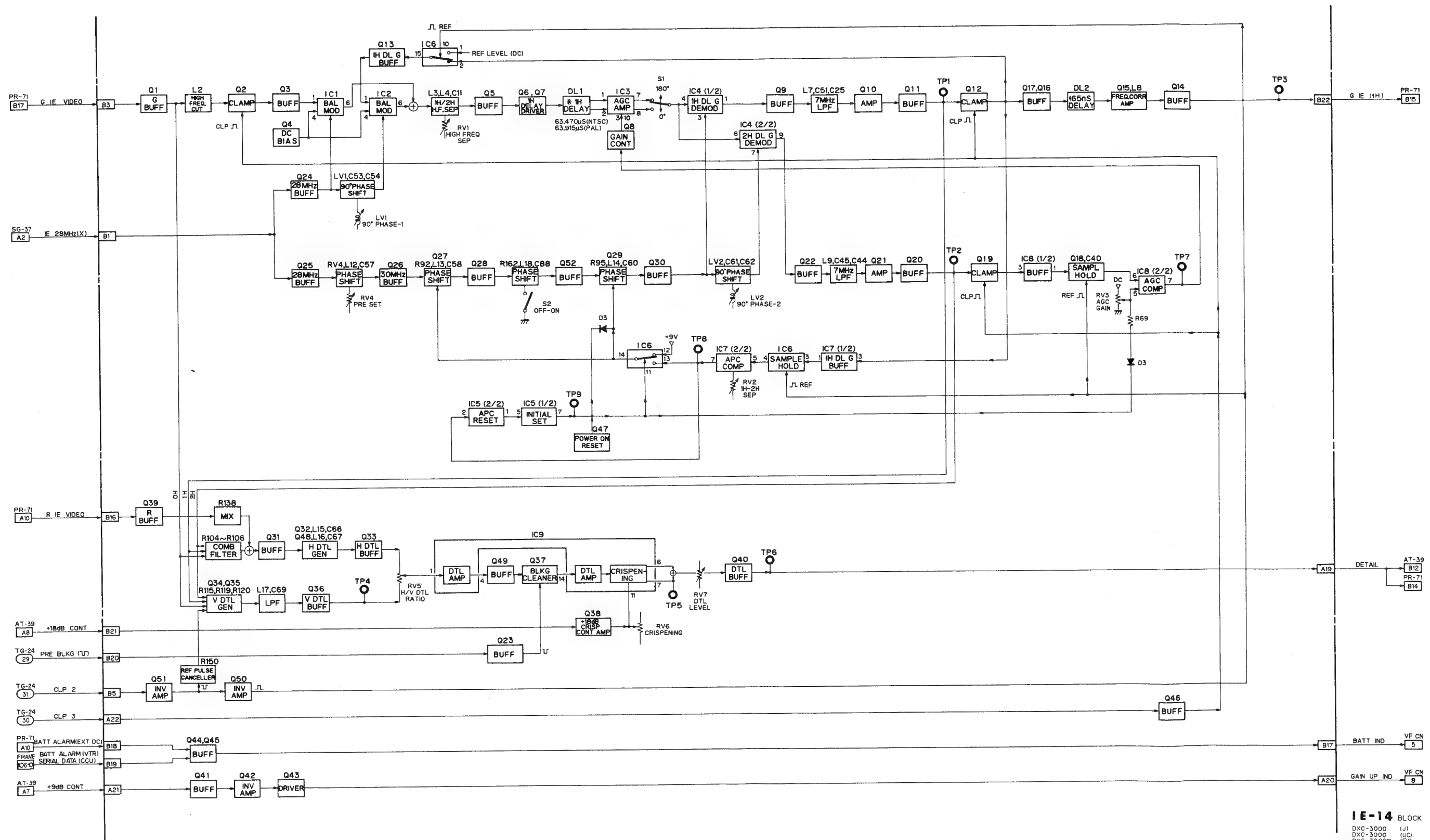


**DXC-3000A/AP**

**EN-39A BLOCK**  
**YC-35**  
 DXC-3000A (J)  
 DXC-3000A (U)  
 DXC-3000AP (EK)



## IE-14 BLOCK



IE-14 BLOCK  
DXC-3000 (U)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (U)  
DXC-3000A (UC)  
DXC-3000A (EK)

DXC-3000/P/PM

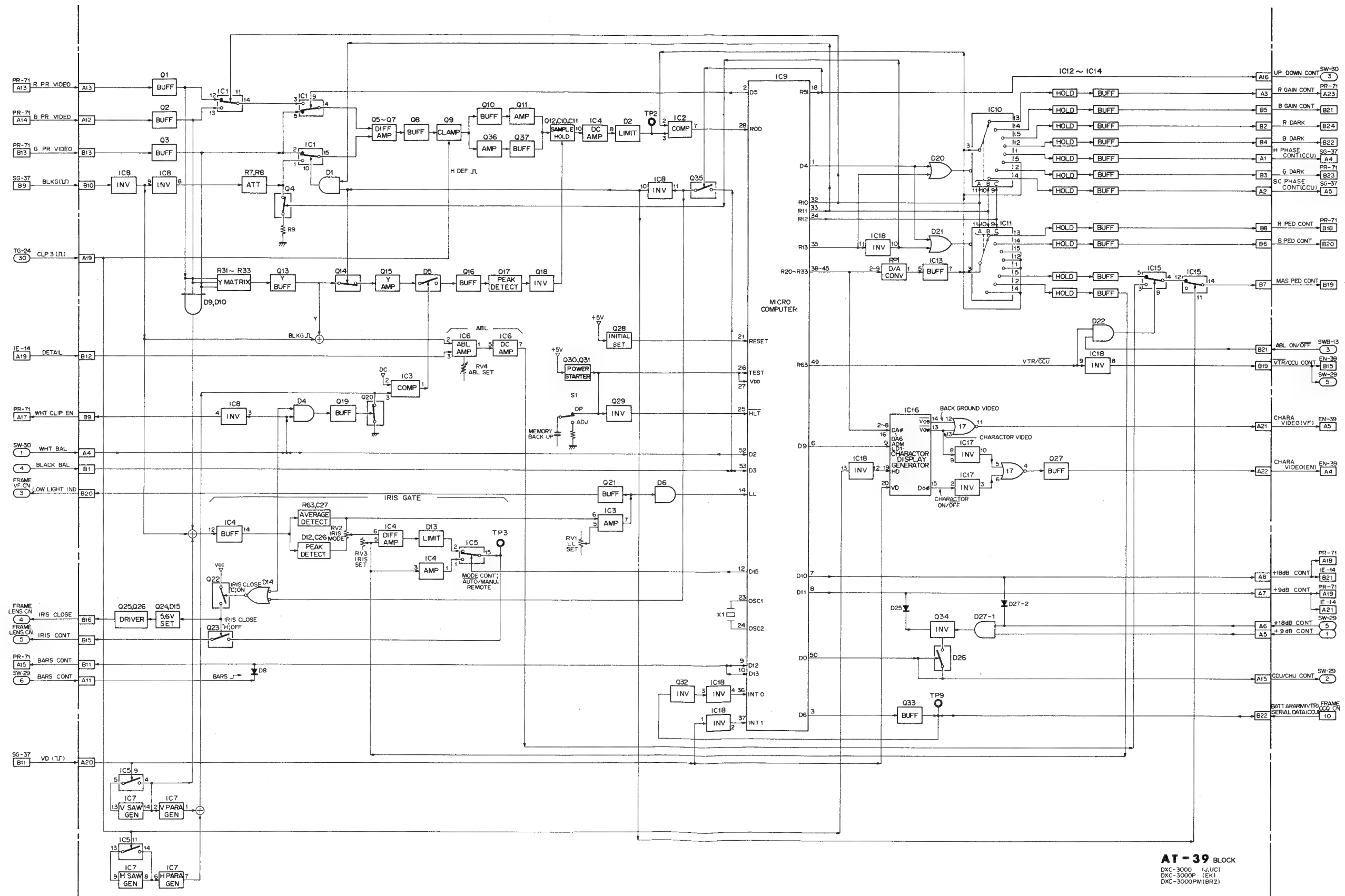
AT-39 B/D

AT-39 B/D

DXC-3000/P/PM

## AT-39 BLOCK

Ser. No. 10001~12330 (J)  
10001~14770 (UC)  
10001~15265 (EK)

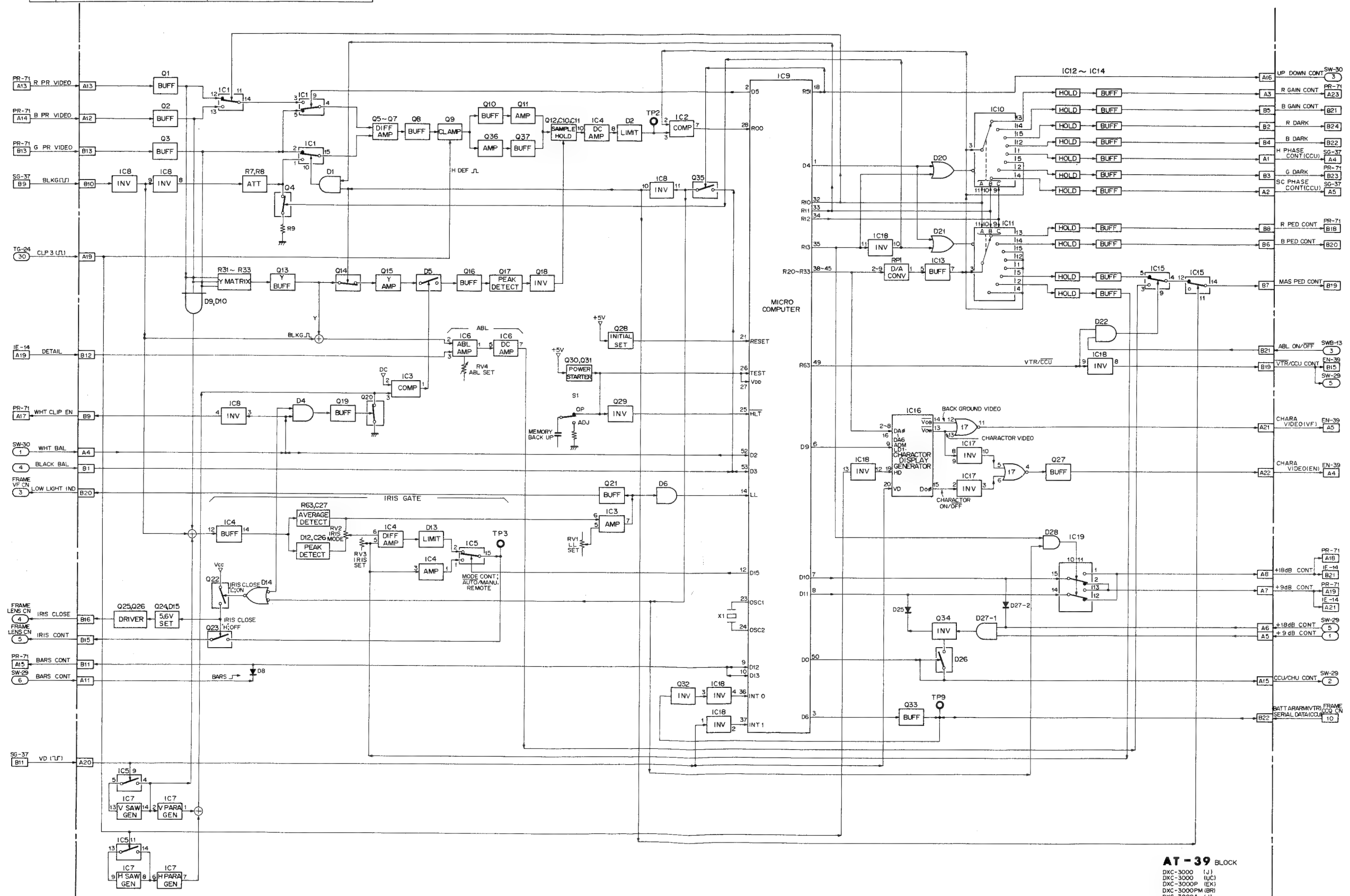


4-13(a)

4-14(a)

AT-39 BLOCK  
DXC-3000 (JUC)  
DXC-3000P (EK)  
DXC-3000PM (BRZ)

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 12331~12730	Ser. No. 50771 and higher
UC	14771~15450	50001 and higher
EK	15266~16485	70001 and higher
BR	10001~	



**AT-39** BLOCK

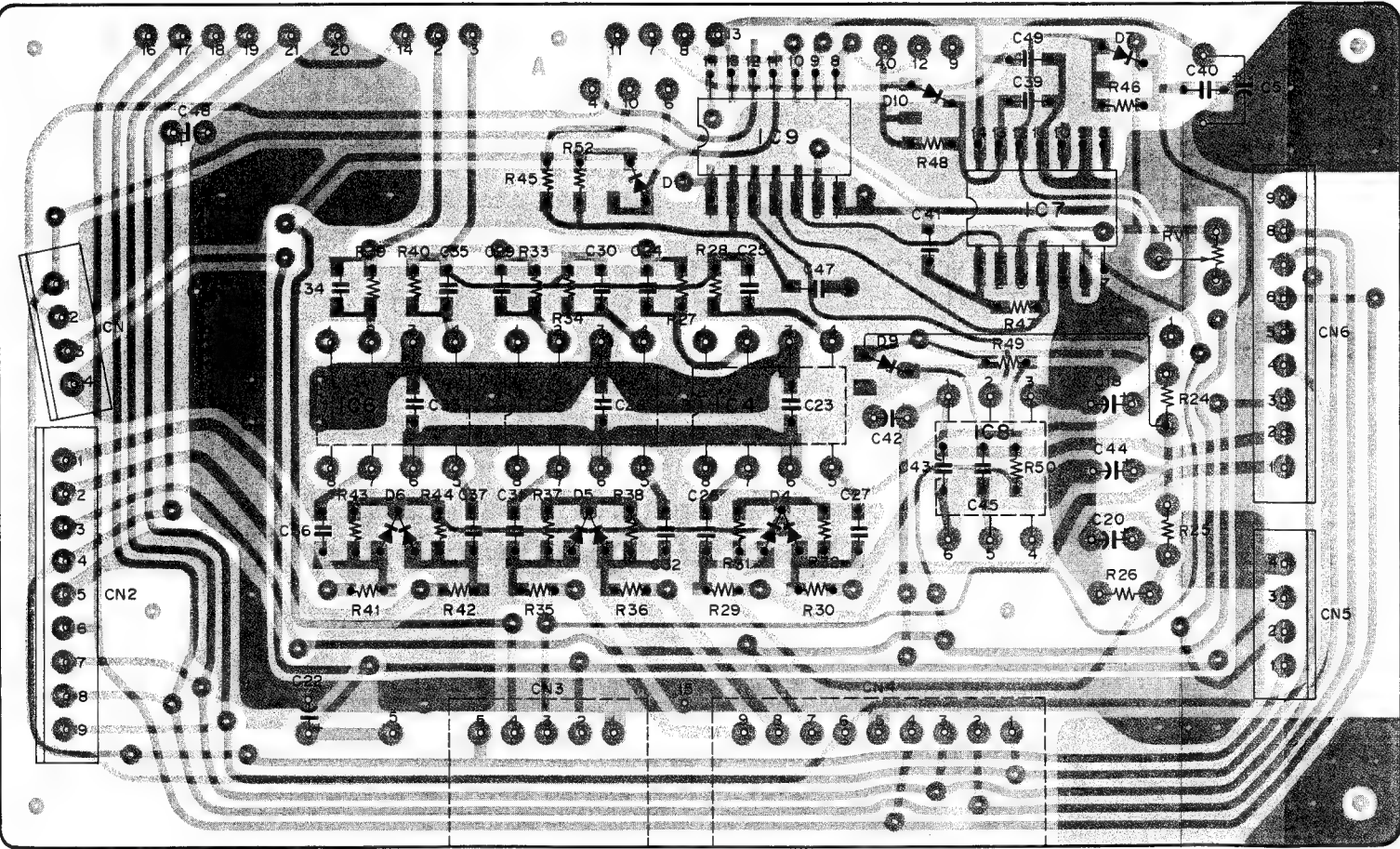
DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000A (UC)  
DXC-3000AP (EK)

**SG-37** BLOCK

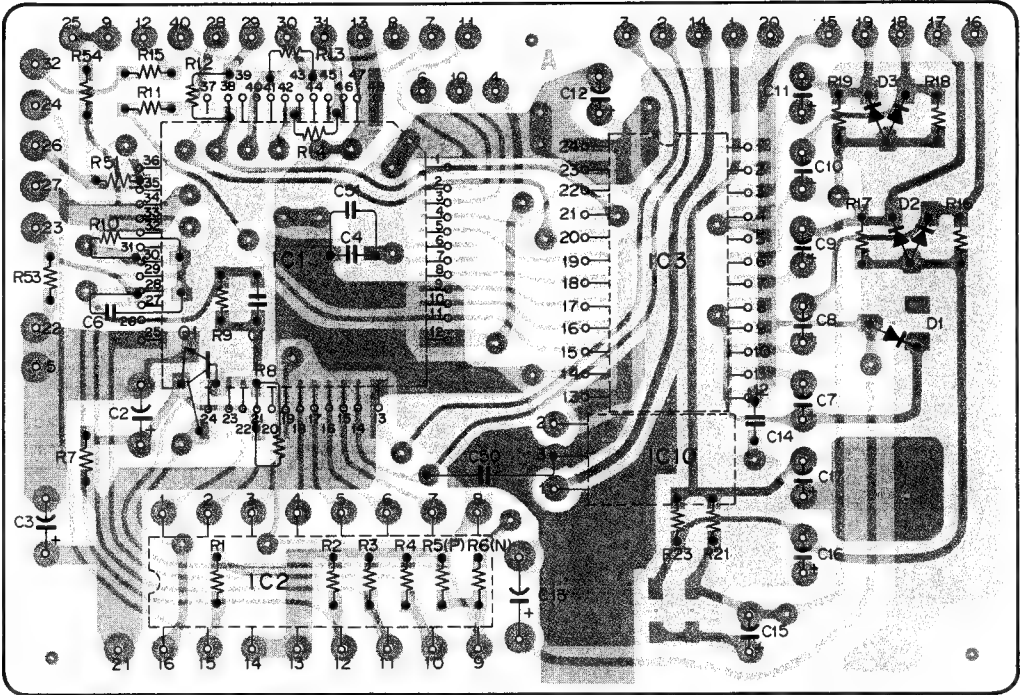
DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000A (UC)  
DXC-3000AP (EK)

4-2. MOUNTED CIRCUIT BOARD AND SCHEMATIC DIAGRAM

TG-18 BOARD	Ser. No. 10001 ~ 10205 (J)
TG-24 BOARD	10001 ~ 10810 (UC)
	10001 ~ 10440 (EK)



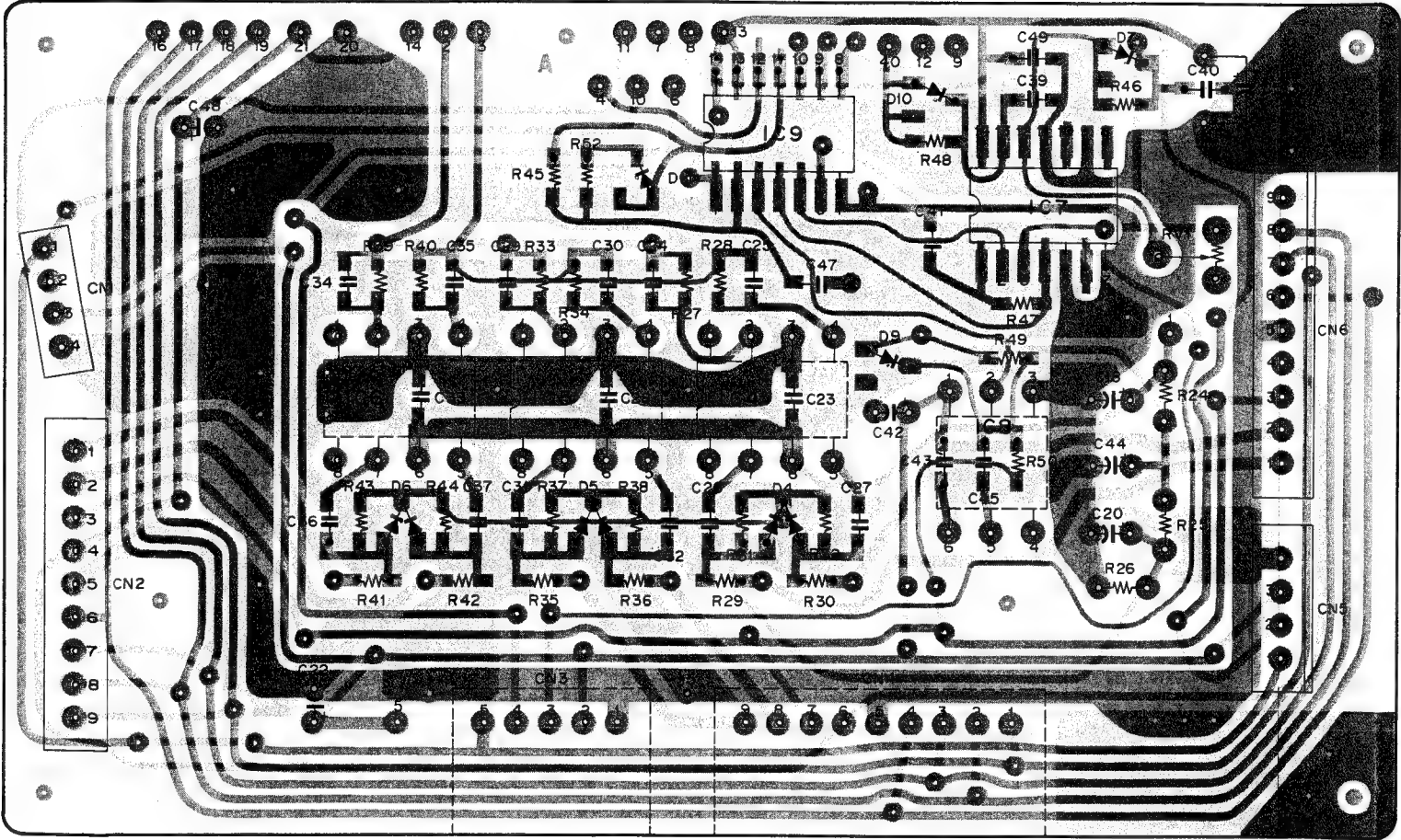
**TG-18 BOARD**  
-SOLDERING SIDE-  
1-617-36511  
DXC-3000 (J,UC)  
DXC-3000P (EK)



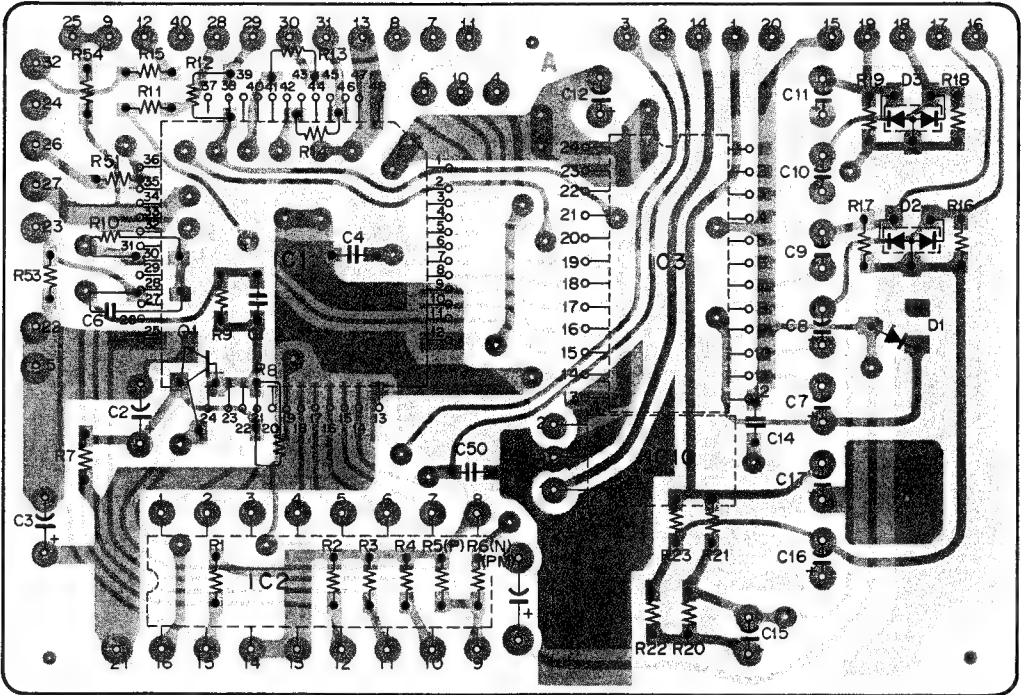
**TG-24 BOARD**  
-SOLDERING SIDE-  
1-617-36611  
DXC-3000 (J,UC)  
DXC-3000P (EK)



TG-18 BOARD	Ser. No. 10206~11945 (J)
	10811~13840 (UC)
	10441~14165 (EK)
	10001~10100 (BRZ)
TG-24 BOARD	



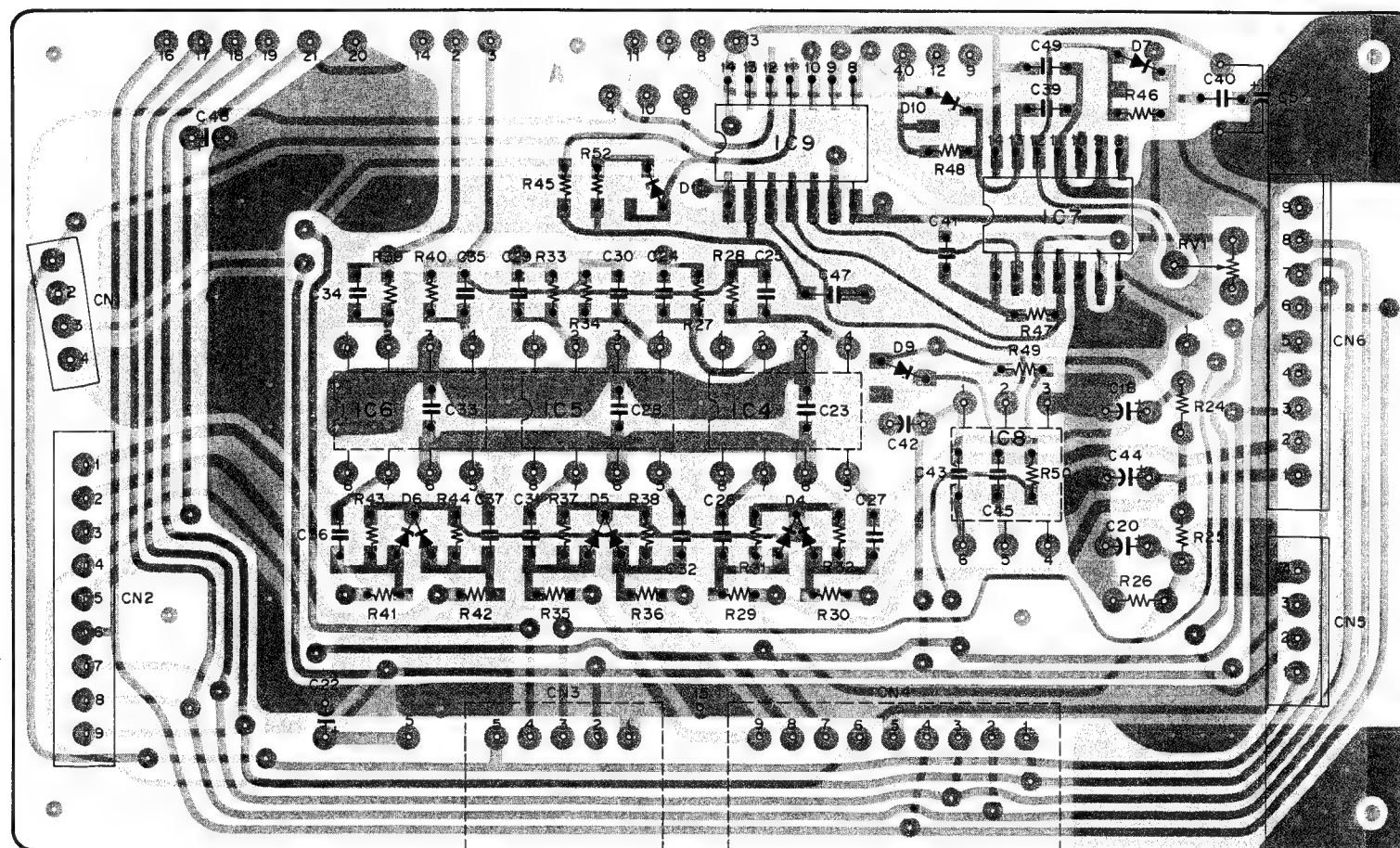
**TG-18 BOARD**  
 -SOLDERING SIDE-  
 1-617-365-12  
 DXC-3000 (J,UC)  
 DXC-3000P (EK)  
 DXC-3000PM (BRZ)



**TG-24 BOARD**  
 -SOLDERING SIDE-  
 1-617-366-12  
 DXC-3000 (J,UC)  
 DXC-3000P (EK)  
 DXC-3000PM (BRZ)

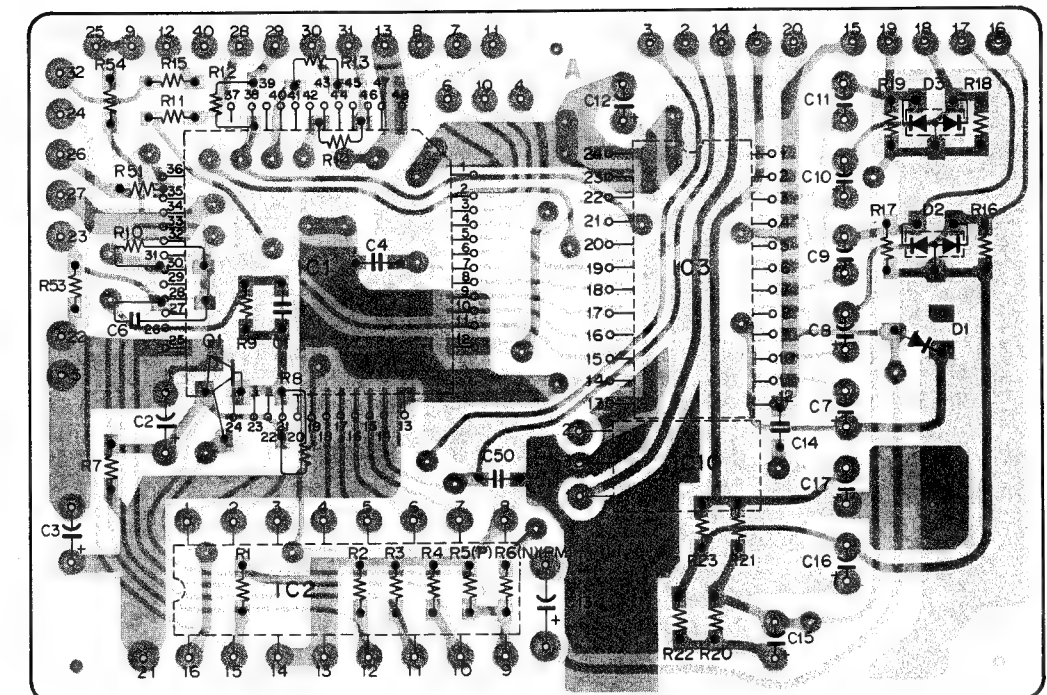
**TG-18 BOARD**  
**TG-24 BOARD**

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 11946 and higher	Ser. No. 50771 and higher
UC	13841 and higher	50001 and higher
EK	14166 and higher	70001 and higher
BR	10101 and higher	



**TG-18 BOARD**  
-SOLDERING SIDE-

1-617-365-13  
DXC-3000 (J) 11946 ~  
DXC-3000 (UC) 13841 ~  
DXC-3000P (EK) 14166 ~  
DXC-3000PM (BR) 10101 ~  
DXC-3000A (J) 50771 ~  
DXC-3000A (UC) 50001 ~  
DXC-3000AP (EK) 70001 ~



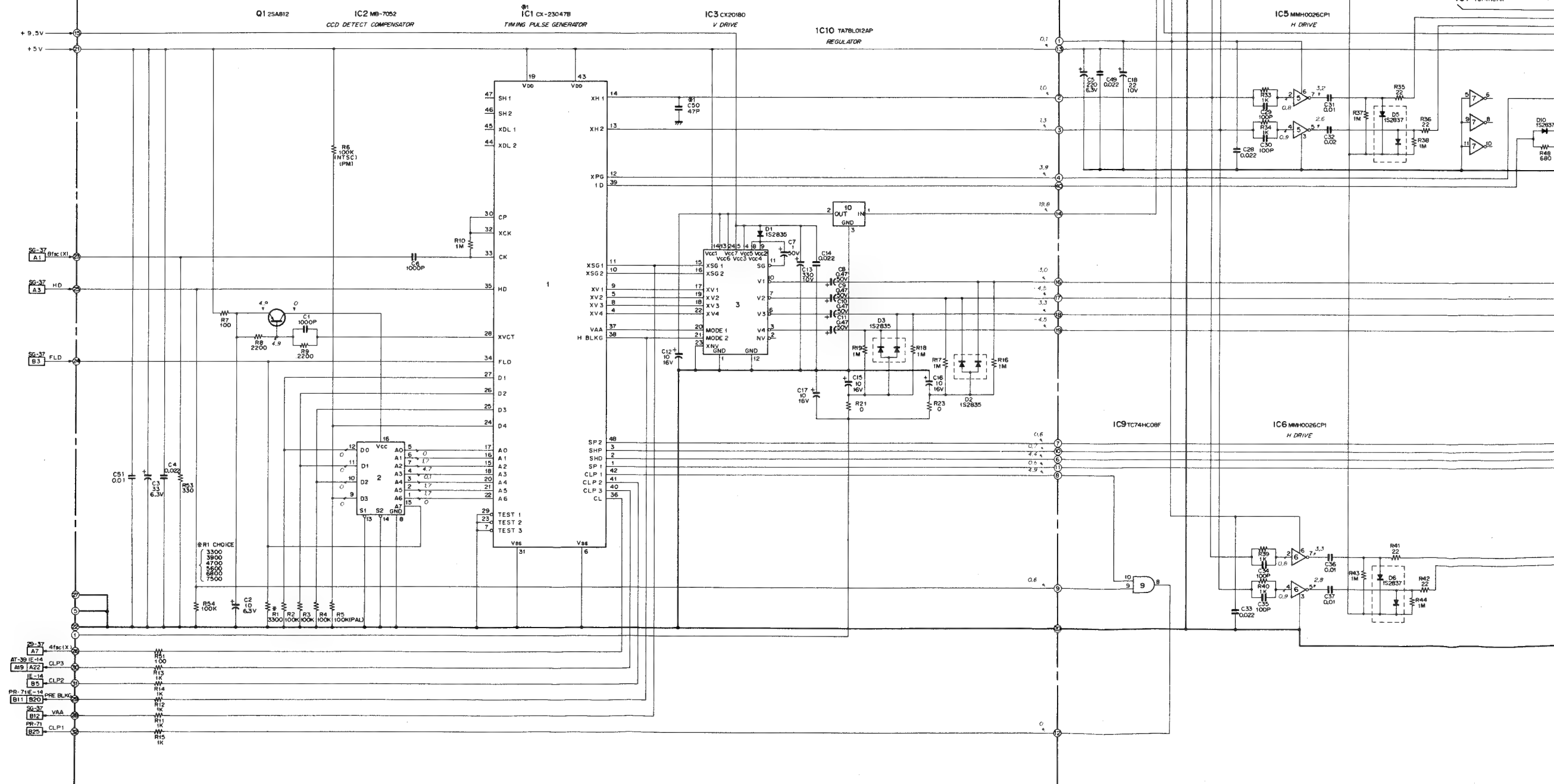
**TG-24 BOARD**  
-SOLDERING SIDE-

1-617-366-13  
DXC-3000 (J) 11946 ~  
DXC-3000 (UC) 13841 ~  
DXC-3000P (EK) 14166 ~  
DXC-3000PM (BR) 10101 ~  
DXC-3000A (J) 50771 ~  
DXC-3000A (UC) 50001 ~  
DXC-3000AP (EK) 70001 ~

**TG-18 BOARD**  
**TG-24 BOARD**

**TG-24** BOARD

CHANGE INFORMATION			
※ MARK	REF. NO.	DESCRIPTION	EFFECTIVE SER. N.
※1	IC1	CX23047A → CX23047B	DKC-3000 11111 ~ (UC (J) 10296 ~ (E 10641 ~ (E 10001 ~ (BR
	C50	33P→47P	DKC-3000 11831 ~ (UC (J) 10436 ~ (E 11571 ~ (E 10001 ~ (BR





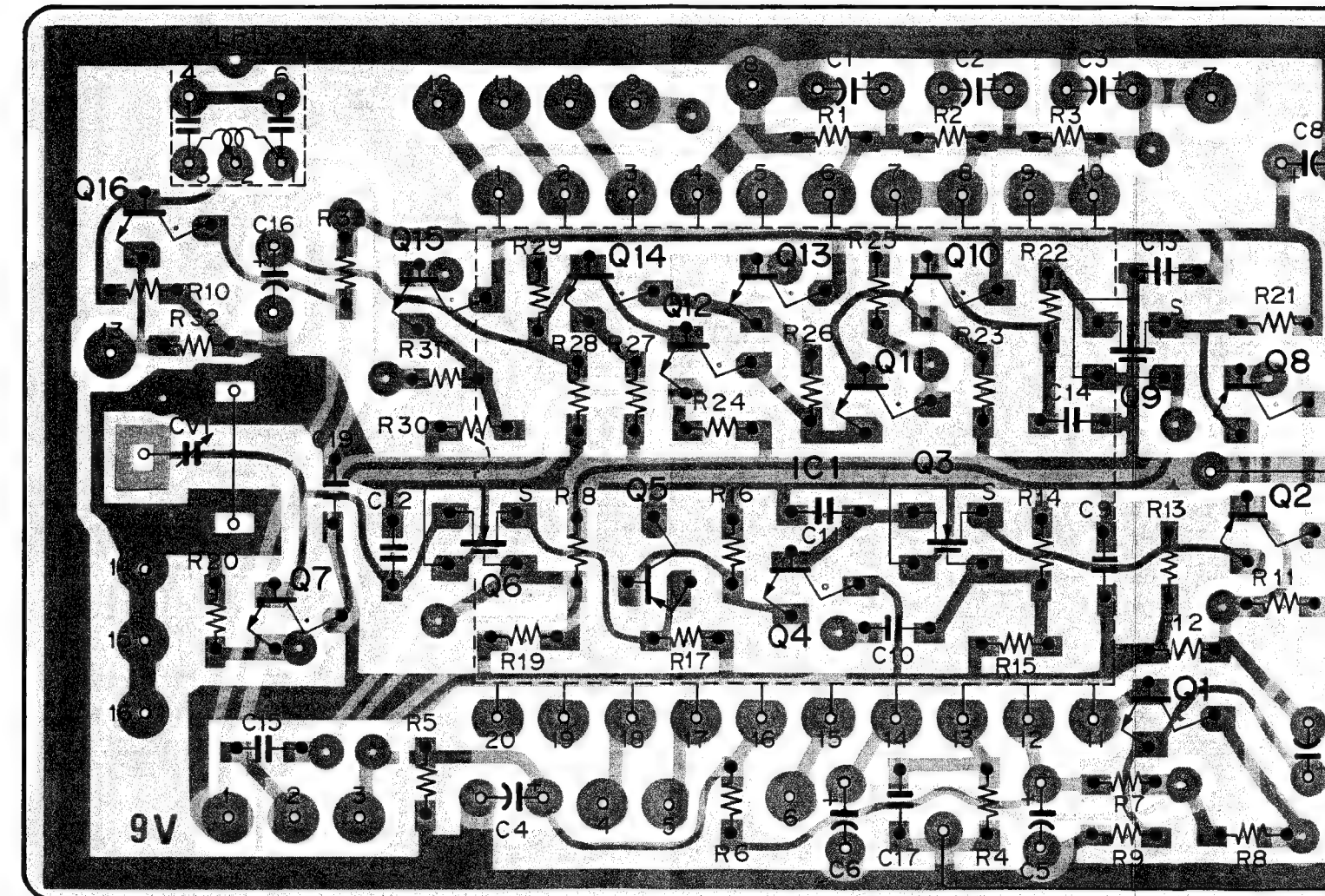


DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000 PM(BR)  
DXC-3000 A (J)  
DXC-3000 A (UC)  
DXC-3000 AP(EK)

1. All voltage are dc, mesured with a digital voltmeter.  
(input impedance: 10 MΩ)

PA-40 BOARD

PA-41 BOARD

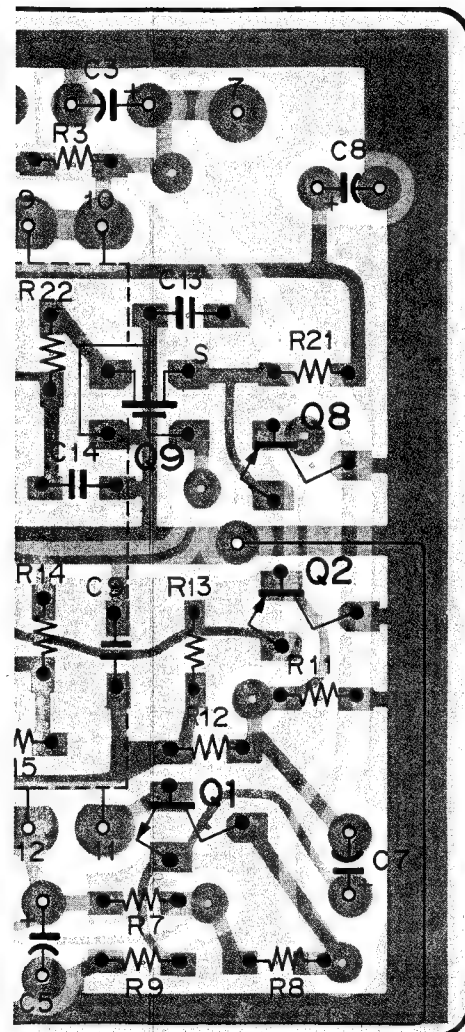


**PA-40(R)(B)B**

-SOLDERING SIDE-

1-617-363-11

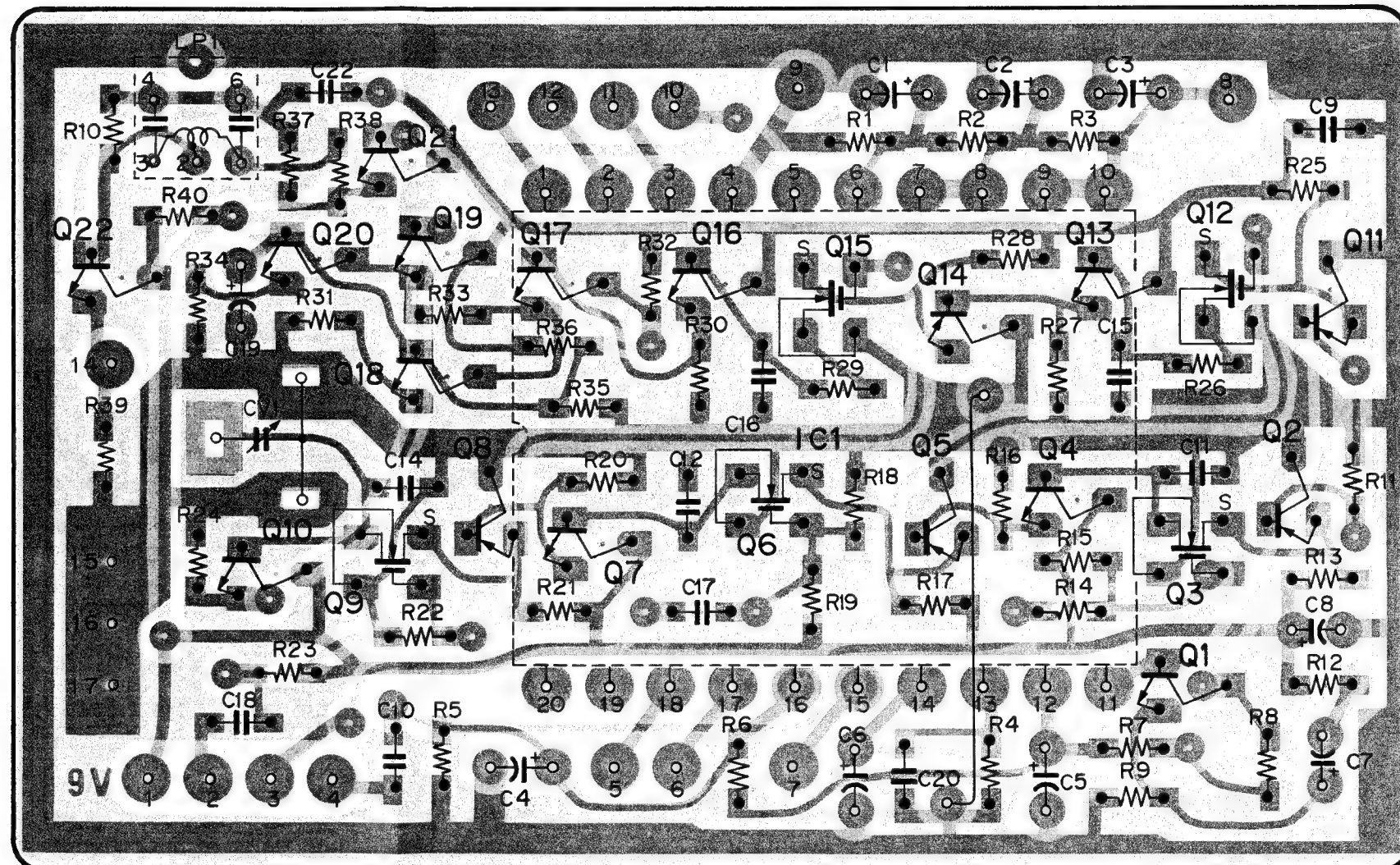
DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000A (UC)  
DXC-3000AP (EK)



**PA-40(R)(B) BOARD**  
-SOLDERING SIDE-

1-617-363-11

DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000 A (UC)  
DXC-3000 AP (EK)



**PA-41(G) BOARD**  
-SOLDERING SIDE-

1-617-364-11

DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000 A (UC)  
DXC-3000 AP (EK)

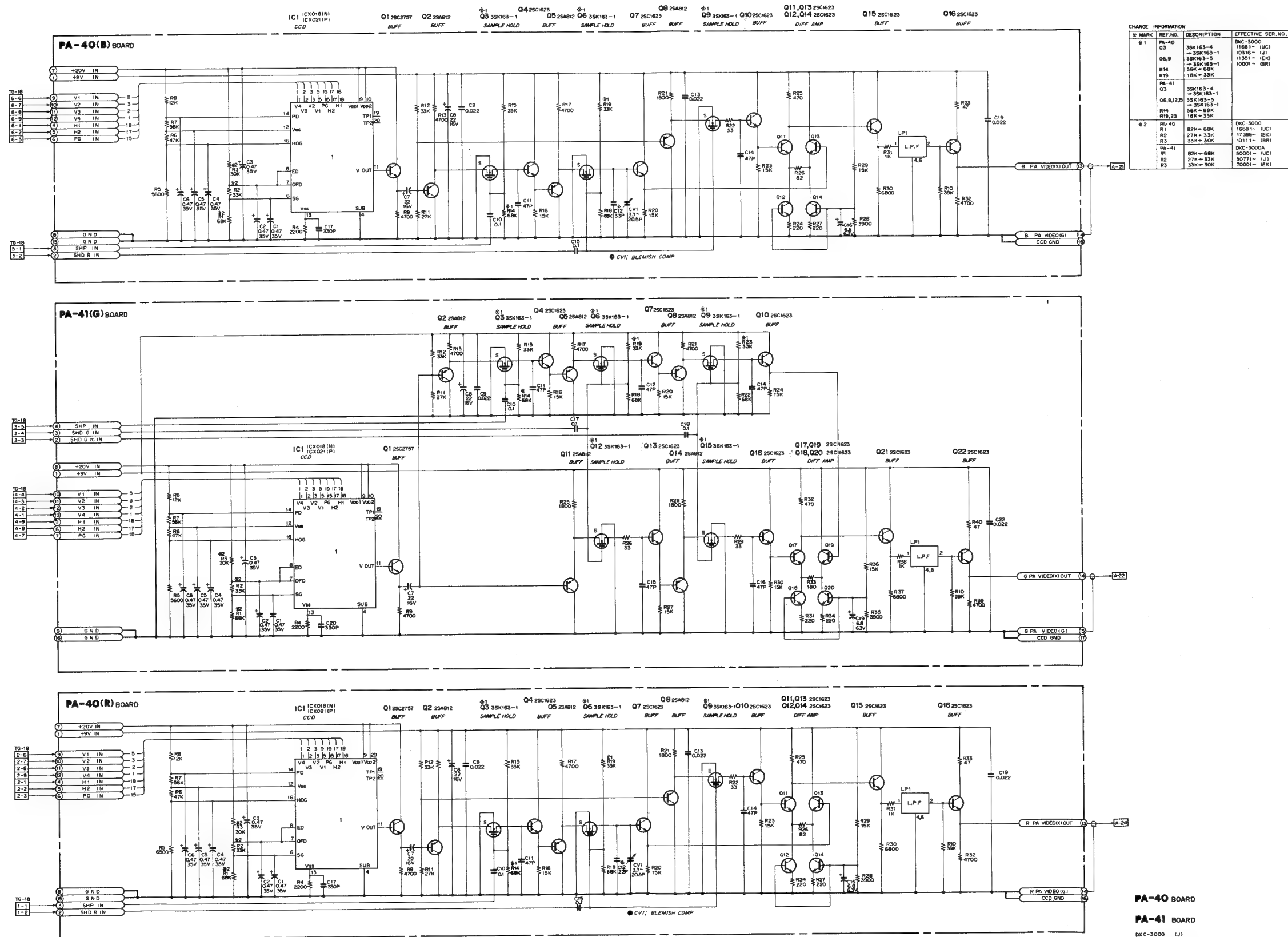
DXC-3000/P/PM  
DXC-3000A/AP

PA-40/41

PA-40/41

DXC-3000/P/PM  
DXC-3000A/AP

PA-40 BOARD  
PA-41 BOARD





DXC-3000/P

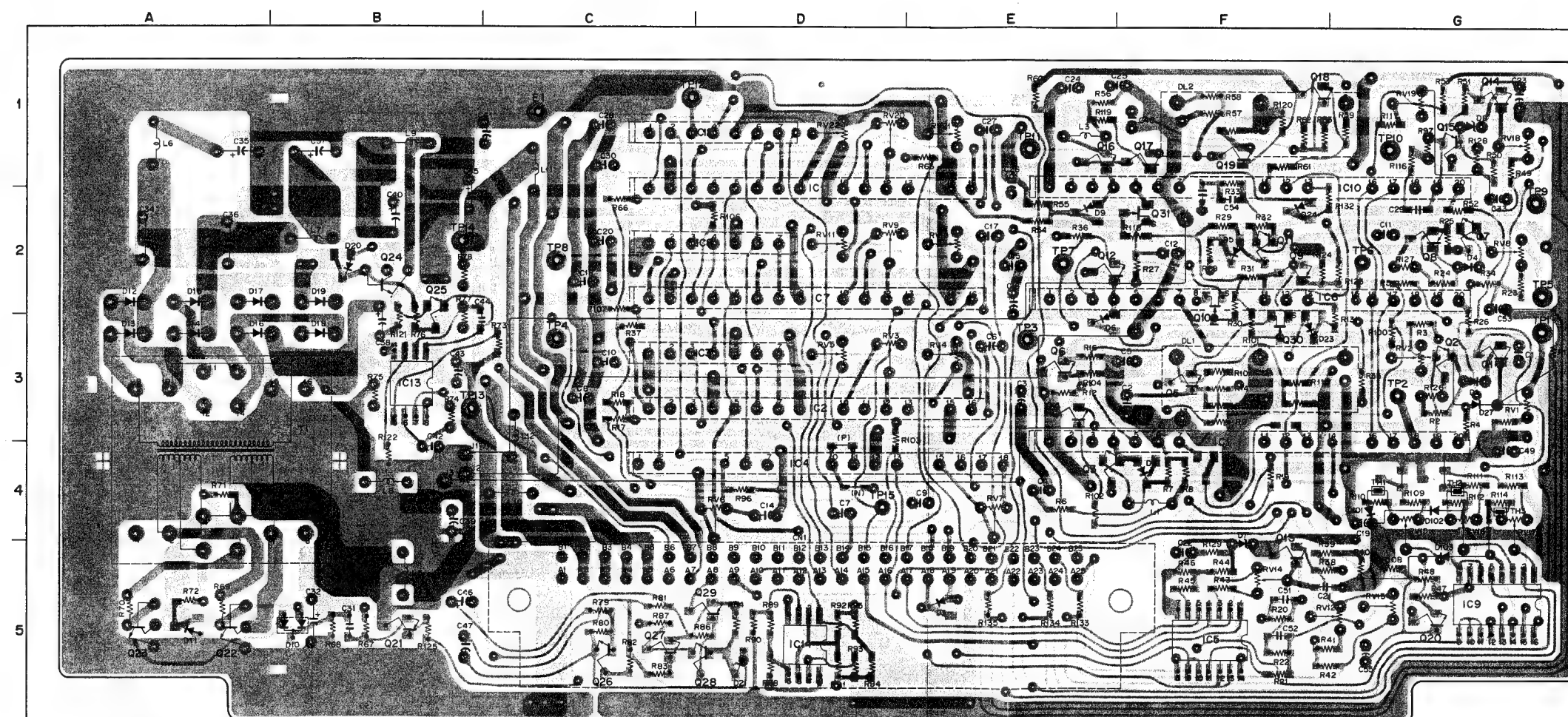
PR-71

PR-71

DXC-3000/P

## PR-71 BOARD

Ser. No. 10001 ~ 10205 (J)  
10001 ~ 10810 (UC)  
10001 ~ 10440 (EK)



PR-71 BOARD  
-SOLDERING SIDE-  
1-517-354-11  
DXC-3000 (J, UC)  
DXC-3000P (E, K)

CN1	D-5	Q1	G-3	RV21	E-1
D1	G-3	Q2	G-3	RV22	D-1
D2	F-4	Q3	E-4		
D3	E-5	Q4	E-3	T1	A-4
D4	G-2	Q5	F-3		
D5	F-2	Q6	E-3	TH1	G-4
D6	E-3	Q7	G-2	TH2	G-4
D7	F-5	Q8	G-2	TH3	G-4
D8	G-1	Q9	F-2	TP1	G-3
D9	E-2	Q10	F-2	TP2	G-3
D10	B-5	Q11	F-2	TP3	E-3
D11	A-5	Q12	E-2	TP4	C-3
D12	A-2	Q13	F-5	TP5	G-2
D13	A-3	Q14	G-1	TP6	G-2
D14	A-3	Q15	G-1	TP7	E-2
D15	A-2	Q16	E-1	TP8	C-2
D16	A-3	Q17	F-1	TP9	G-2
D17	A-2	Q18	F-1	TP10	G-1
D18	B-3	Q19	F-1		
D19	B-2	Q20	G-5	TP11	E-1
D20	B-2	Q21	B-5	TP12	C-1
D21	D-5	Q22	A-5	TP13	B-3
D23	F-3	Q23	A-5	TP14	B-2
D24	F-2	Q24	B-2	TP15	D-4
D25	G-4	Q25	B-2		
D26	G-4	Q26	C-5		
D101	G-4	Q27	C-5		
D102	G-4	Q28	D-5		
D103	G-5	Q29	D-5		
DL1	F-3	Q30	F-3		
DL2	F-1	Q31	F-2		
E1	C-1	RV1	G-3		
IC1	F-3	RV2	G-3		
IC2	D-3	RV3	D-3		
IC3	D-3	RV4	E-3		
IC4	D-4	RV5	D-3		
IC5	F-5	RV6	D-4		
IC6	F-2	RV7	E-4		
IC7	D-2	RV8	G-2		
IC8	D-2	RV9	D-2		
IC9	G-5	RV10	E-2		
IC10	F-1	RV11	D-2		
IC11	D-2	RV12	G-5		
IC12	D-1	RV13	G-5		
IC13	B-3	RV14	F-5		
IC14	D-5	RV15	G-4		
		RV16	G-4		
		RV17	G-4		
		RV18	G-1		
		RV19	G-1		
		RV20	D-1		

DXC-3000/P/PM  
DXC-3000A/AP

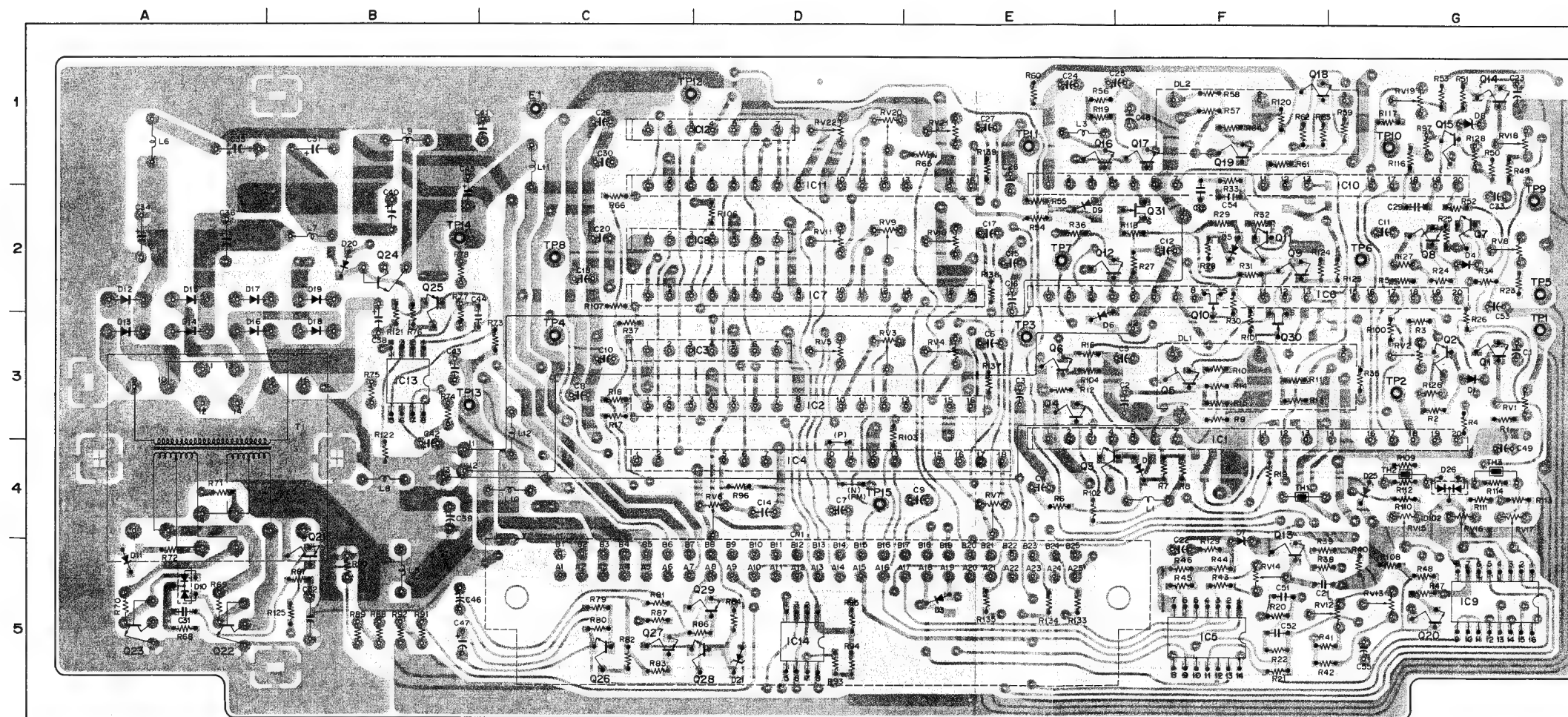
PR-71

PR-71

DXC-3000/P/PM  
DXC-3000A/AP

PR-71 BOARD

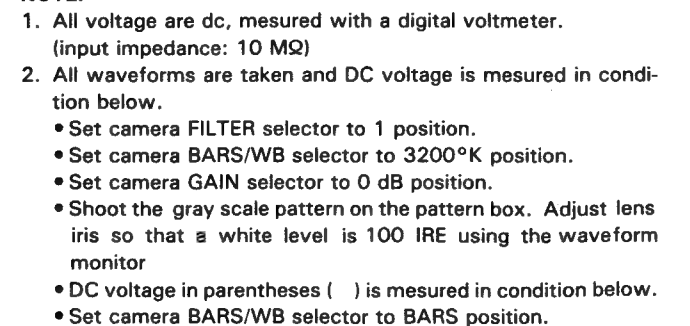
	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 10206 and higher	Ser. No. 50771 and higher
UC	10811 and higher	50001 and higher
EK	10441 and higher	70001 and higher
BR	10001 and higher	



CN1	D-5	Q1	G-3	RV21	E-1
D1	G-3	Q2	G-3	RV22	D-1
D2	F-4	Q3	E-4	T1	A-4
D3	E-5	Q4	E-3		
D4	G-2	Q5	F-3	TH1	G-4
D5	F-2	Q6	E-3	TH2	G-4
D6	E-3	Q7	G-2	TH3	G-4
D7	F-5	Q8	F-2	TP1	G-3
D8	G-1	Q9	F-2	TP2	G-3
D9	E-2	Q10	F-2	TP3	E-3
D10	B-5	Q11	F-2	TP4	C-3
D11	A-5	Q12	E-2	TP5	G-2
D12	A-2	Q13	F-5	TP6	G-2
D13	A-3	Q14	G-1	TP7	E-2
D14	A-3	Q15	G-1	TP8	C-2
D15	A-2	Q16	E-1	TP9	G-2
D16	A-3	Q17	F-1	TP10	G-1
D17	A-2	Q18	F-1	TP11	E-1
D18	B-3	Q19	F-1	TP12	C-1
D19	B-2	Q20	G-5	TP13	B-3
D20	B-2	Q21	B-5	TP14	B-2
D21	D-5	Q22	A-5	TP15	D-4
D25	G-4	Q23	A-5		
D26	G-4	Q24	B-2		
D101	G-4	Q25	B-2		
D102	G-4	Q26	C-5		
D103	G-5	Q27	C-5		
DL1	F-3	Q28	D-5		
DL2	F-1	Q29	D-5		
E1	C-1	Q30	F-3		
IC1	F-3	Q31	F-2		
IC2	D-3	RV1	G-3		
IC3	D-3	RV2	G-3		
IC4	D-4	RV3	D-3		
IC5	F-5	RV4	E-3		
IC6	F-2	RV5	D-3		
IC7	D-2	RV6	D-4		
IC8	D-2	RV7	E-4		
IC9	G-5	RV8	G-2		
IC10	F-1	RV9	D-2		
IC11	D-2	RV10	E-2		
IC12	D-1	RV11	D-2		
IC13	B-3	RV12	G-5		
IC14	D-5	RV13	G-5		
		RV14	F-5		
		RV15	G-4		
		RV16	G-4		
		RV17	G-4		
		RV18	G-1		
		RV19	G-1		
		RV20	D-1		

PR-71 BOARD  
-SOLDERING SIDE-  
1-817-354-12  
DXC-3000 (J) 10206 ~  
DXC-3000 (UC) 10811 ~  
DXC-3000P (EK) 10441 ~  
DXC-3000PM (BR) 10001 ~  
DXC-3000A (J) 50771 ~  
DXC-3000A (UC) 50001 ~  
DXC-3000AP (EK) 70001 ~

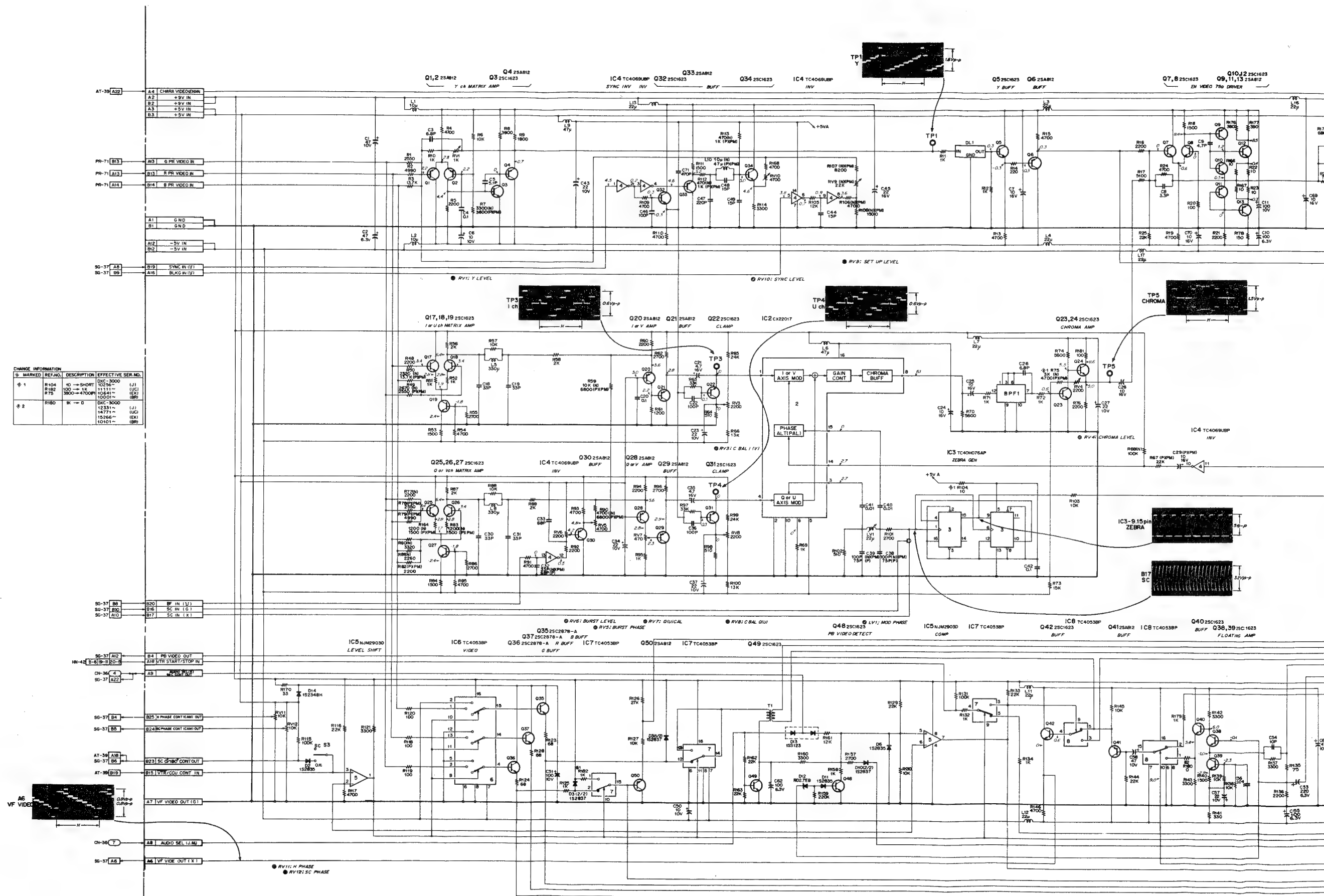
## 4-32

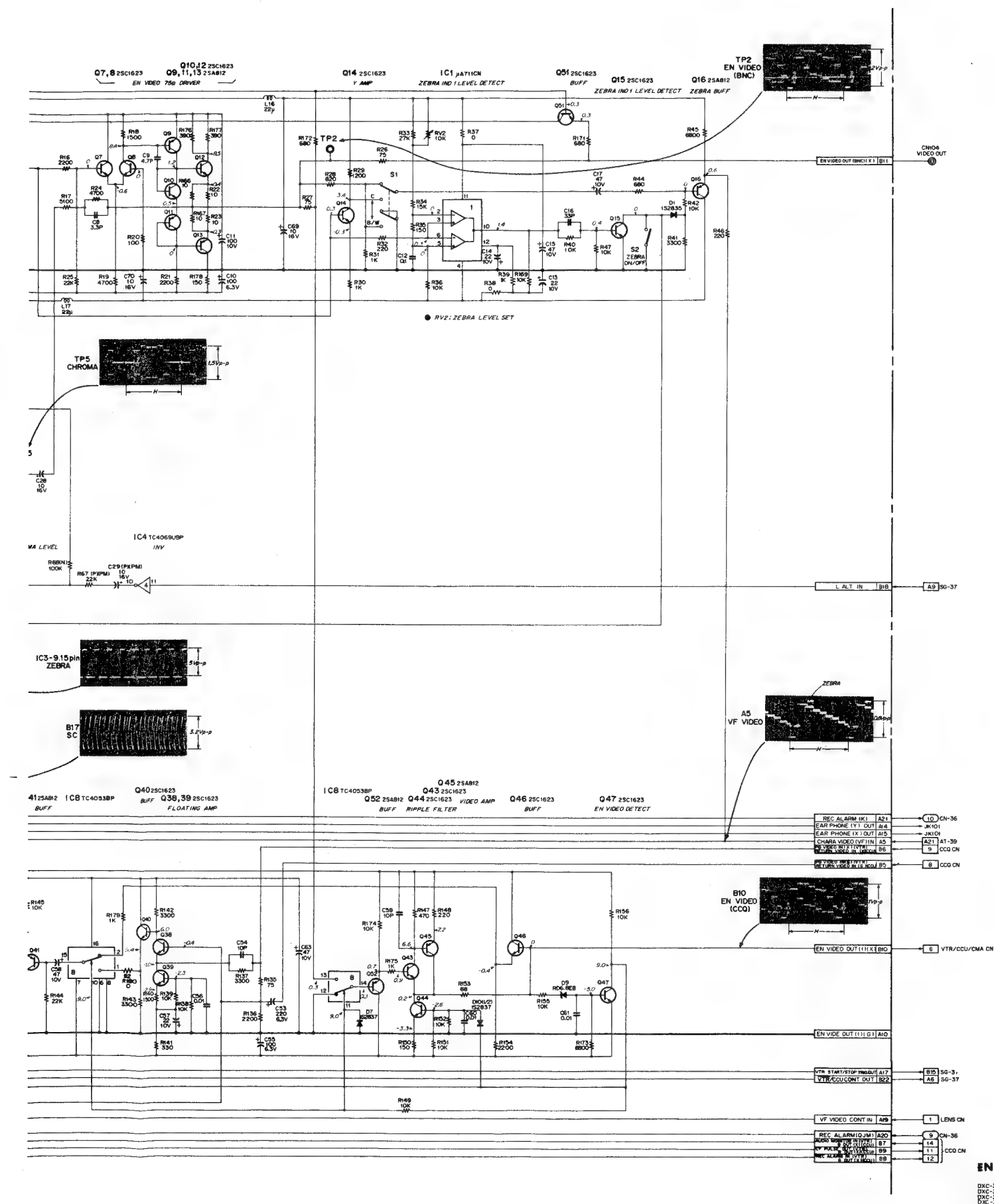
PR-71 BOARD

DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000A (UC)  
DXC-3000AP (EK)



## EN-39 BOARD





4-37(a)

## 注意:

1. 直流電圧系数字式電圧計 (輸入抵抗10MΩ) 測量値。
2. 波形照片及直流電圧は在下列条件下測定の。  
● BARS/WB 开关→BARS位置  
● S1 (C/BW) EN→39电路板→BW位置  
● S2 (ZEBRA ON/OFF)/EN-39电路板→ON位置

## 注意:

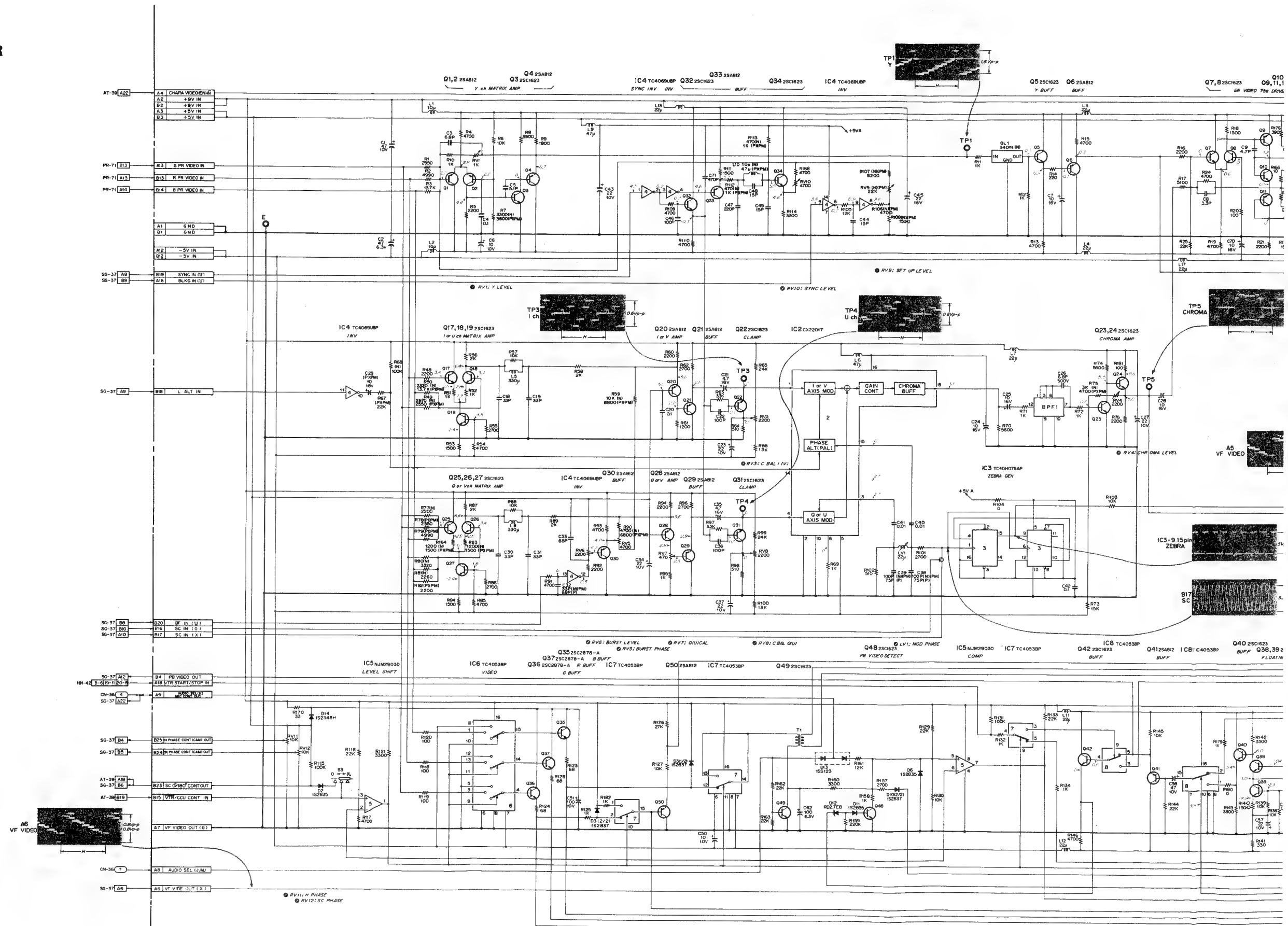
1. DC 電圧はデジタル電圧計 (入力インピーダンス 10 MΩ) による値。
2. 波形写真及び DC 電圧は下記条件下で測定。  
● BARS/WB スイッチ→BARS 位置  
● S1(C/BW)/EN-39 基板→BW 位置  
● S2(ZEBRA ON/OFF)/EN-39 基板→ON 位置

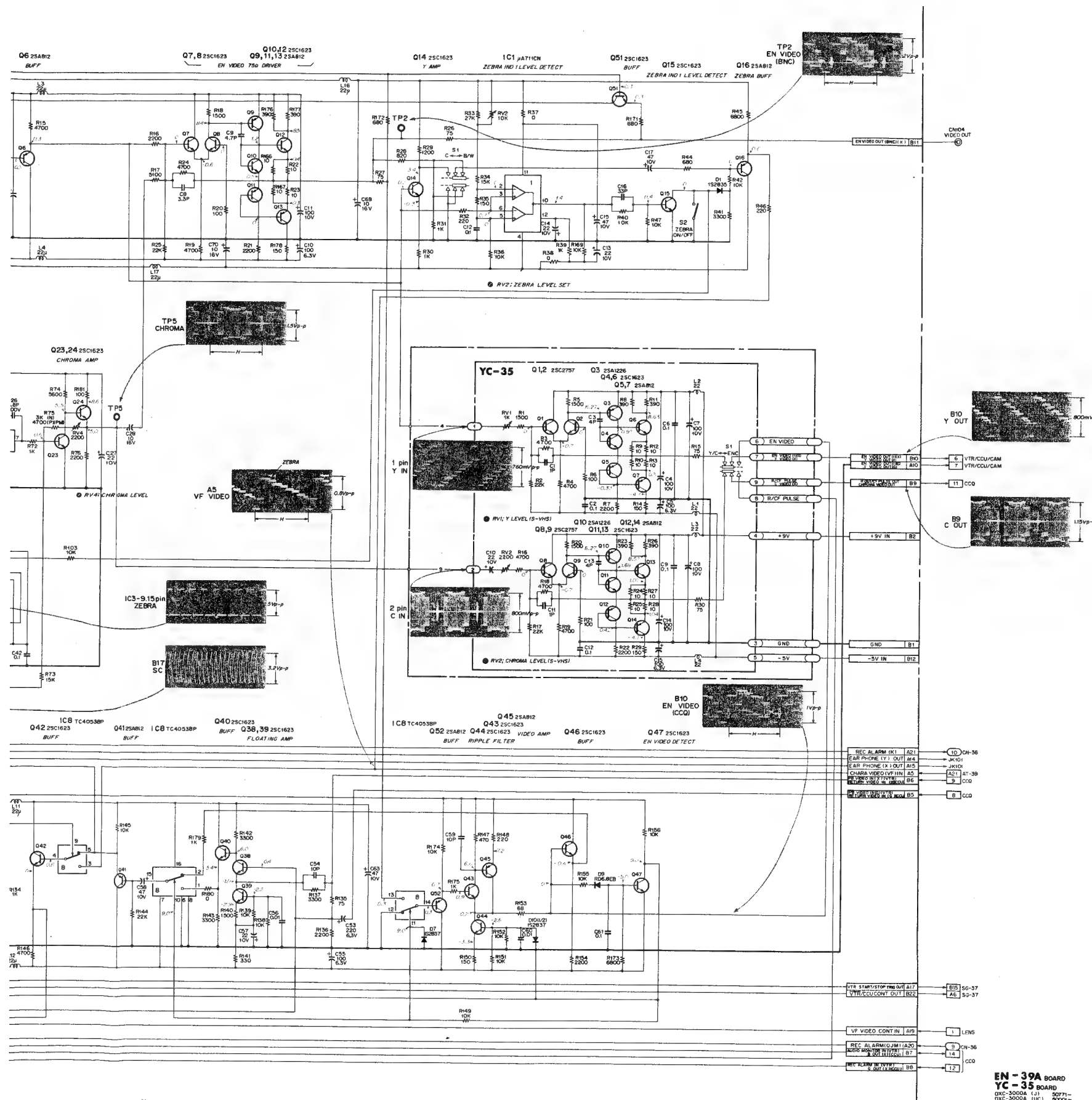
## NOTE:

1. All voltage are dc, measured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is measured in condition below.  
● Set camera BARS/WB selector to BARS position.  
● Set camera S1 switch/EN-39 board (C/BW) to BW position.  
● Set camera S2 switch/EN-39 board (ZEBRA ON/OFF) to ON position.

4-38(a)

EN-39A BOARD; ENCODER  
YC-35 BOARD; Y & CHROMA VIDEO DRIVER





4-37(b)

## 注意:

1. 直流電圧係数字式電圧計(入力抵抗10MΩ)測量値。
2. 波形照片及直流電圧は在下列条件下測定。  
●BARS/WB開關→BARS位置  
●SI (C/BW) EN→39电路板→BW位置  
●S2 (ZEBRA ON/OFF)/EN-39电路板→ON位置

## 注意:

1. DC電圧はデジタル電圧計(入力インピーダンス10MΩ)による値。
2. 波形写真及びDC電圧は下記条件下測定。  
●BARS/WBスイッチ→BARS位置  
●SI(C/BW)/EN-39基板→BW位置  
●S2(ZEBRA ON/OFF)/EN-39基板→ON位置  
●SI(YC/ENC)/YC-35基板→YC位置

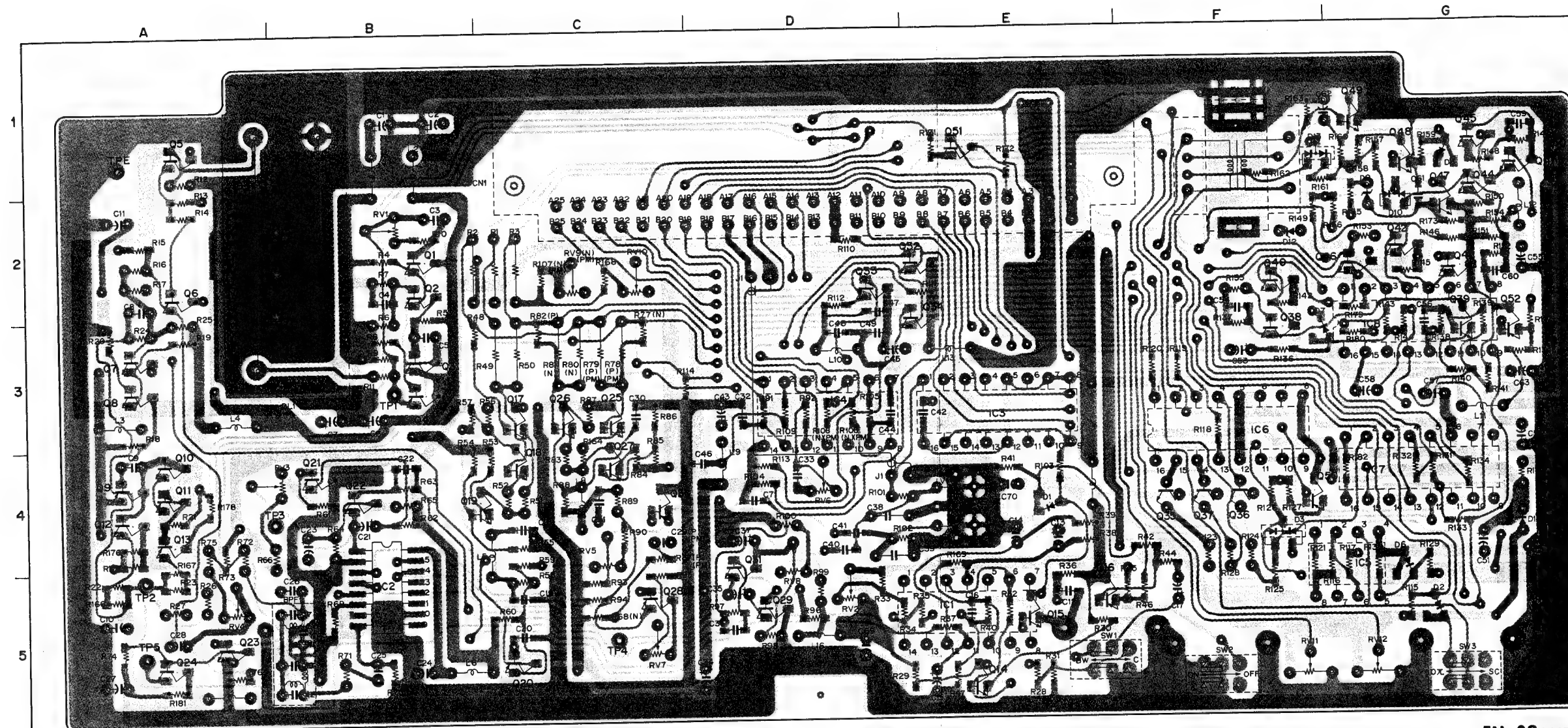
## NOTE:

1. All voltage are dc, mesured with a digital voltmeter. (input impedance: 10 MΩ)
2. All waveforms are taken and DC voltage is mesured in condition below.  
●Set camera BARS/WB selector to BARS position.  
●Set camera S1 switch/EN-39 board (C/BW) to BW position.  
●Set camera S2 switch/EN-39 board (ZEBRA ON/OFF) to ON position.  
●Set S1 switch/YC-35 board (YC/ENC) to YC position.

4-38(b)

## EN-39 BOARD

Ser. No. 10206 and higher (J)  
10811 and higher (UC)  
10441 and higher (EK)  
10001 and higher (BRZ)



EN-39 BOARD  
-SOLDERING SIDE-

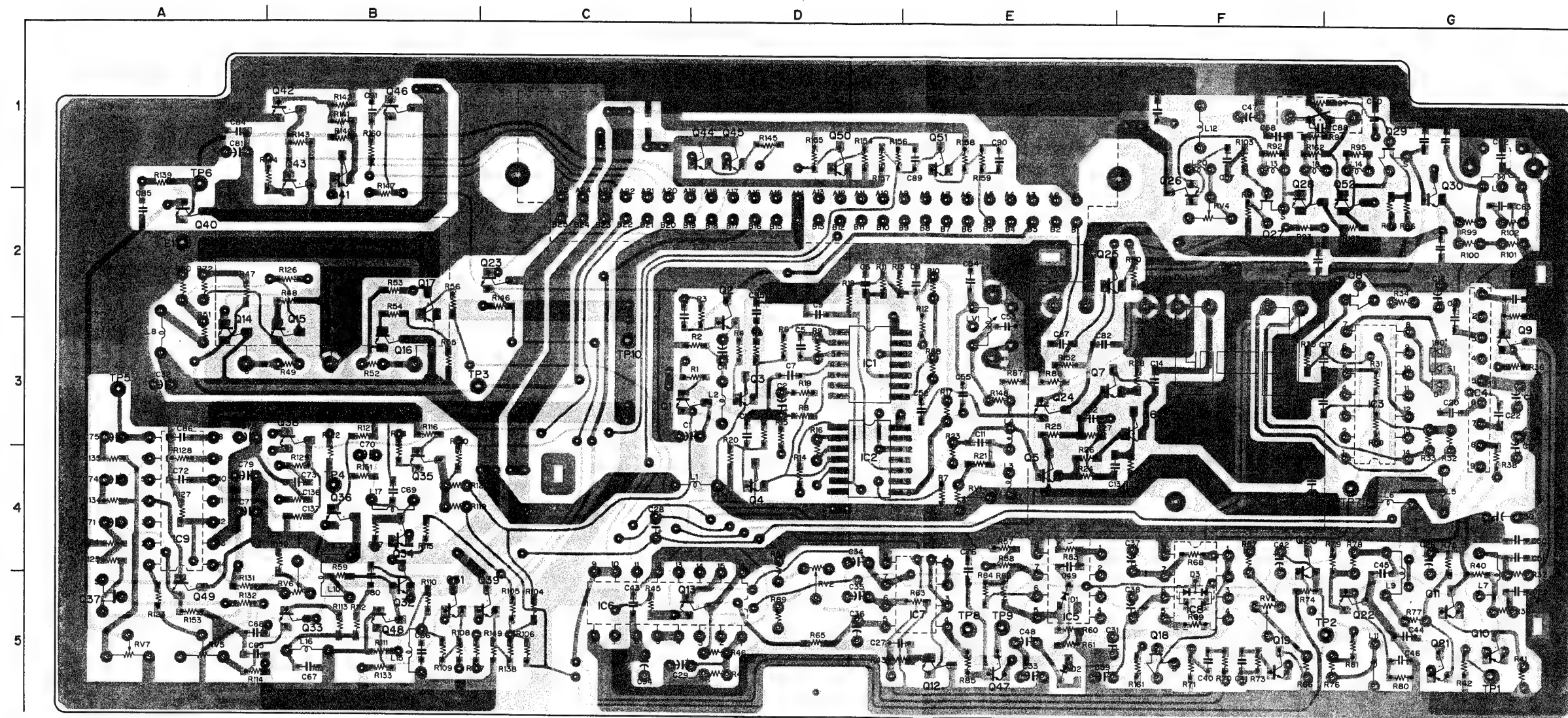
1-617-352-12  
DXC-3000 (JJC)  
DXC-3000P (EK)  
DXC-3000PM (BRZ)

BPF	B-5	Q26	C-3
CN1	C-1	Q27	C-4
D1	E-4	Q28	C-5
D2	G-5	Q29	D-5
D3	F-4	Q30	C-4
D6	G-5	Q31	D-5
D7	G-3	Q32	E-2
		Q33	D-2
		Q34	E-3
		Q35	F-4
D9	G-2		
D10	G-2	Q36	F-4
D11	G-1	Q37	F-4
D12	F-2	Q38	F-3
D13	F-1	Q39	G-3
D14	G-4	Q40	F-2
DL1	B-2	Q41	G-2
IC1	E-5	Q42	G-2
IC2	B-5	Q43	G-1
IC3	E-3	Q44	G-2
IC4	D-3	Q45	G-1
IC5	G-5	Q46	G-2
		Q47	G-2
IC6	E-3	Q48	G-1
IC7	G-4	Q49	G-1
IC8	G-3	Q50	F-4
LV1	E-4	Q51	E-1
Q1	B-2	Q52	G-3
Q2	B-2		
Q3	B-3	RV1	B-2
Q4	B-3	RV2	D-5
Q5	A-1	RV3	B-4
		RV4	A-5
		RV5	C-4
Q6	A-2	RV6	D-4
Q7	A-3	RV7	C-5
Q8	A-3	RV8	D-4
Q9	A-4	RV9	C-2
Q10	A-4	RV10	C-2
Q11	A-4	RV11	F-5
Q12	A-4	RV12	G-5
Q13	A-4		
Q14	E-5	S1	E-5
Q15	E-5	S2	F-5
		S3	G-5
Q16	E-5		
Q17	C-3	T1	F-1
Q18	C-4		
Q19	C-4	TP1	B-3
Q20	C-5	TP2	A-5
Q21	B-4	TP3	A-4
Q22	B-4	TP4	C-5
Q23	A-5	TP5	A-5
Q24	A-5		
Q25	C-3	TPE	A-1



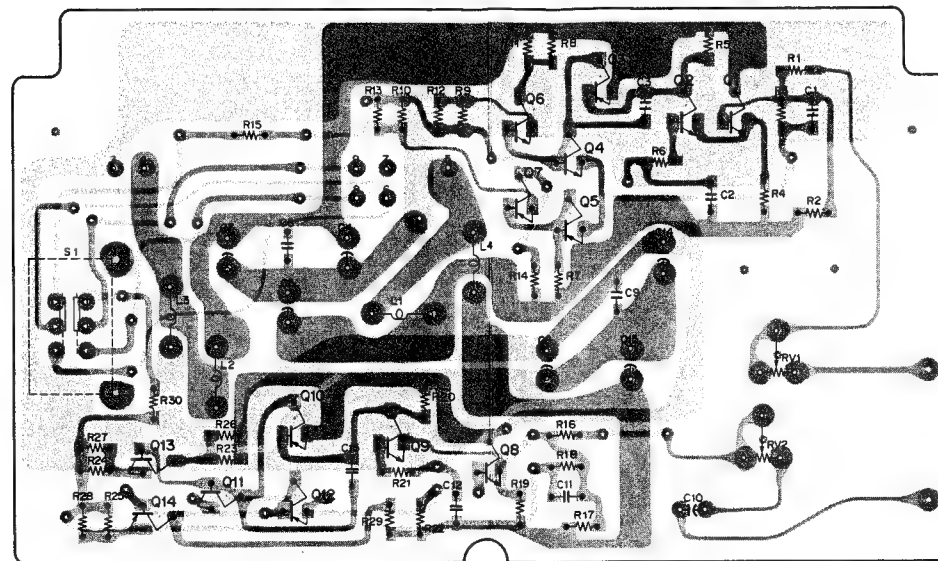
IE-14 BOARD

Ser. No. 10001 ~ 10205 (J)  
10001 ~ 10810 (UC)  
10001 ~ 10440 (EK)

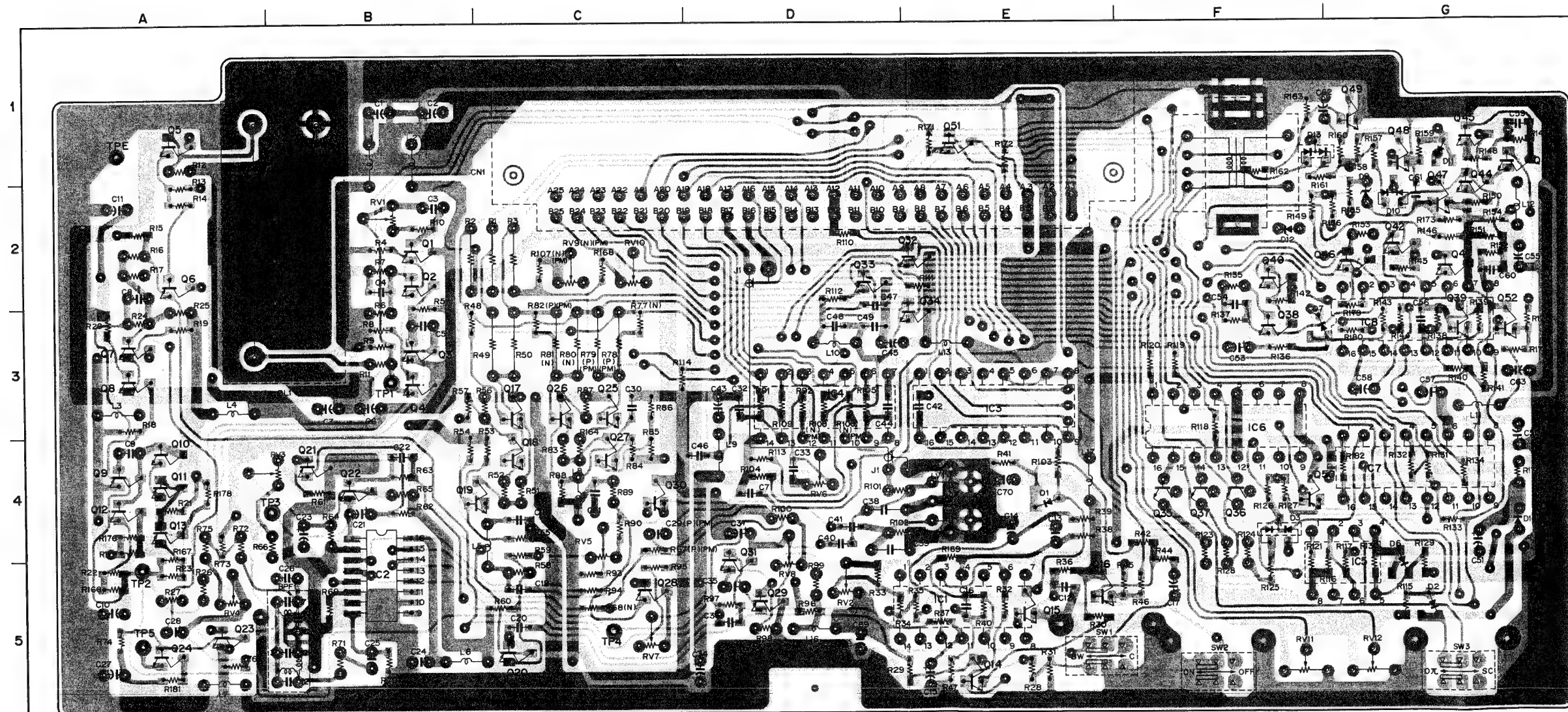


CN1	D-1	Q26	F-2
D1	E-5	Q27	F-2
D2	E-5	Q28	F-2
D3	F-5	Q29	G-1
		Q30	G-2
DL1	F-3	Q31	B-5
DL2	B-2	Q32	B-5
		Q33	B-5
E-1	A-2	Q34	B-4
		Q35	B-4
IC1	D-3	Q36	B-4
IC2	D-4	Q37	A-5
IC3	G-3	Q38	B-3
IC4	G-3	Q39	C-5
IC5	E-5	Q40	A-2
IC6	C-5	Q41	B-1
IC7	E-5	Q42	B-1
IC8	F-5	Q43	B-1
IC9	A-4	Q44	D-1
LV1	E-3	Q45	D-1
LV2	G-1	Q46	B-1
		Q47	E-5
Q1	C-3	Q48	B-5
Q2	D-3	Q49	A-5
Q3	D-3	Q50	D-1
Q4	D-4		
Q5	E-4	Q51	E-1
		Q52	G-2
Q6	F-3		
Q7	F-3	RV1	E-4
Q8	G-2	RV2	D-5
Q9	G-3	RV3	F-5
Q10	G-5	RV4	F-2
		RV5	A-5
Q11	G-5		
Q12	E-5		
Q13	C-5	RV6	B-5
Q14	A-3	RV7	A-5
Q15	B-3	S1	G-3
		S2	F-1
Q16	B-3		
Q17	B-2	TP1	G-5
Q18	F-5	TP2	G-5
Q19	F-5	TP3	B-3
Q20	F-4	TP4	B-4
		TP5	A-3
Q21	G-5		
Q22	G-5	TP6	A-1
Q23	C-2	TP7	G-4
Q24	E-3	TP8	E-5
Q25	E-2	TP9	E-5
		TP10	C-3

IE-14 BOARD  
-SOLDERING SIDE-  
I-617-353-II  
DXC-3000 (J, UC)  
DXC-3000PIE K)

EN-39A BOARD  
YC-35 BOARD

**YC-35 BOARD**  
—SOLDERING SIDE—  
1-625-340-11  
DXC-3000A (J) 50771-  
DXC-3000A (UC) 50001-  
DXC-3000AP (EK) 70001-



BPF	B-5	Q26	C-3
CN1	C-1	Q27	C-4
D1	E-4	Q28	C-5
D2	G-5	Q29	D-5
D3	F-4	Q30	C-4
D6	G-5	Q31	D-5
D7	G-3	Q32	E-2
		Q33	D-2
		Q34	E-3
D9	G-2	Q35	F-4
D10	G-2		
D11	G-1	Q36	F-4
D12	F-2	Q37	F-4
D13	F-1	Q38	F-3
D14	G-4	Q39	G-3
		Q40	F-2
DL1	B-2	Q41	G-2
		Q42	G-2
IC1	E-5	Q43	G-1
IC2	B-5	Q44	G-2
IC3	E-3	Q45	G-1
IC4	D-3		
IC5	G-5	Q46	G-2
		Q47	G-2
IC6	E-3	Q48	G-1
IC7	G-4	Q49	G-1
IC8	G-3	Q50	F-4
LV1	E-4	Q51	E-1
		Q52	G-3
Q1	B-2		
Q2	B-2	RV1	B-2
Q3	B-3	RV2	D-5
Q4	B-3	RV3	B-4
Q5	A-1	RV4	A-5
		RV5	C-4
		RV6	D-4
Q6	A-2	RV7	C-5
Q7	A-3	RV8	D-4
Q8	A-3	RV9	C-2
Q9	A-4	RV10	C-2
Q10	A-4		
		RV11	F-5
Q11	A-4	RV12	G-5
Q12	A-4		
Q13	A-4		
Q14	E-5	S1	E-5
Q15	E-5	S2	F-5
		S3	G-5
Q16	E-5		
Q17	C-3	T1	F-1
Q18	C-4		
Q19	C-4	TP1	B-3
Q20	C-5	TP2	A-5
		TP3	A-4
Q21	B-4	TP4	C-5
Q22	B-4	TP5	A-5
Q23	A-5		
Q24	A-5		
Q25	C-3	TPE	A-1

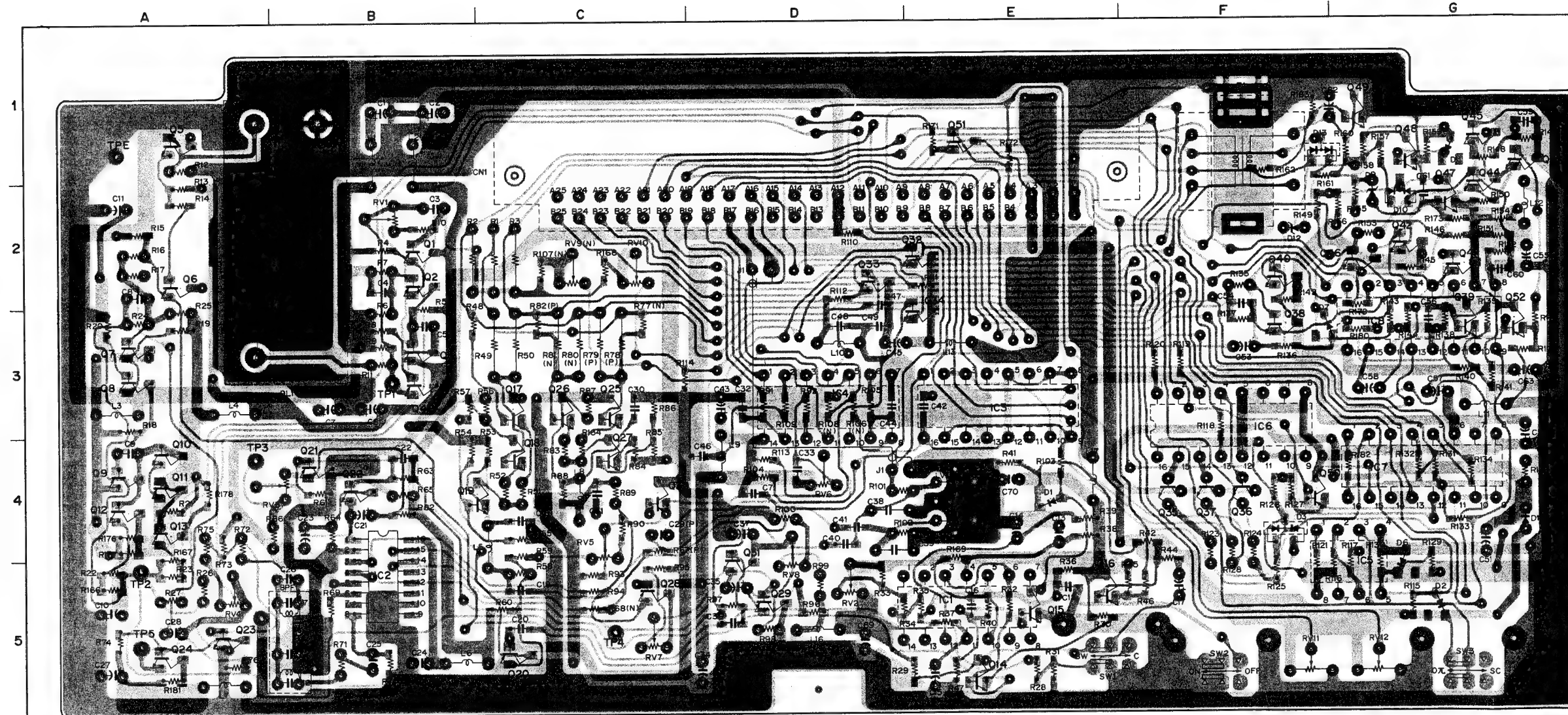
**EN-39 BOARD**  
—SOLDERING SIDE—

1-617-352-12  
DXC-3000 (J) 10206-  
DXC-3000 (UC) 10811-  
DXC-3000P (EK) 10441-  
DXC-3000PM (BR) 10001-  
DXC-3000A (J) 50771-  
DXC-3000A (UC) 50001-  
DXC-3000AP (EK) 70001-



## EN-39 BOARD

Ser. No. 10001 ~ 10205 (J)  
 10001 ~ 10810 (UC)  
 10001 ~ 10440 (EK)



BPF	B-5	Q26	C-3
CN1	C-1	Q27	C-4
D1	E-4	Q28	C-5
D2	G-5	Q29	D-5
D3	F-4	Q30	C-4
D6	G-5	Q31	D-5
D7	G-3	Q32	E-2
		Q33	D-2
		Q34	E-3
		Q35	F-4
D9	G-2		
D10	G-2		
D11	G-1	Q38	F-4
D12	F-2	Q37	F-4
D13	F-1	Q38	F-3
D14	G-4	Q39	G-3
		Q40	F-2
DL1	B-2		
IC1	E-5	Q41	G-2
IC2	B-5	Q42	G-2
IC3	E-3	Q43	G-1
IC4	D-3	Q44	G-2
IC5	G-5	Q45	G-1
		Q46	G-2
IC6	E-3	Q47	G-2
IC7	G-4	Q48	G-1
IC8	G-3	Q49	G-1
		Q50	F-4
LV1	E-4		
		Q51	E-1
Q1	B-2	Q52	G-3
Q2	B-2		
Q3	B-3	RV1	B-2
Q4	B-3	RV2	D-5
Q5	A-1	RV3	B-4
		RV4	A-5
		RV5	C-4
Q6	A-2	RV6	D-4
Q7	A-3	RV7	C-5
Q8	A-3	RV8	D-4
Q9	A-4	RV9	C-2
Q10	A-4	RV10	C-2
Q11	A-4	RV11	F-5
Q12	A-4	RV12	G-5
Q13	A-4		
Q14	E-5	S1	E-5
Q15	E-5	S2	F-5
		S3	G-5
Q16	E-5		
Q17	C-3		
Q18	C-4	T1	F-1
Q19	C-4		
Q20	C-5	TP1	B-3
		TP2	A-5
Q21	B-4	TP3	A-4
Q22	B-4	TP4	C-5
Q23	A-5	TP5	A-5
Q24	A-5		
Q25	C-3	TPE	A-1

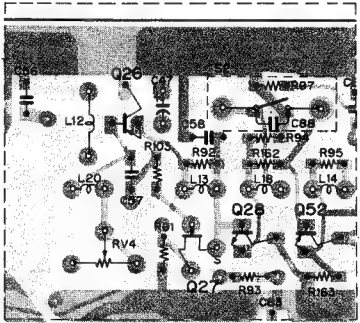
**EN-39 BOARD**  
**-SOLDERING SIDE-**

1-617-352-11  
 DXC-3000 (J,UC)  
 DXC-3000P (EK)

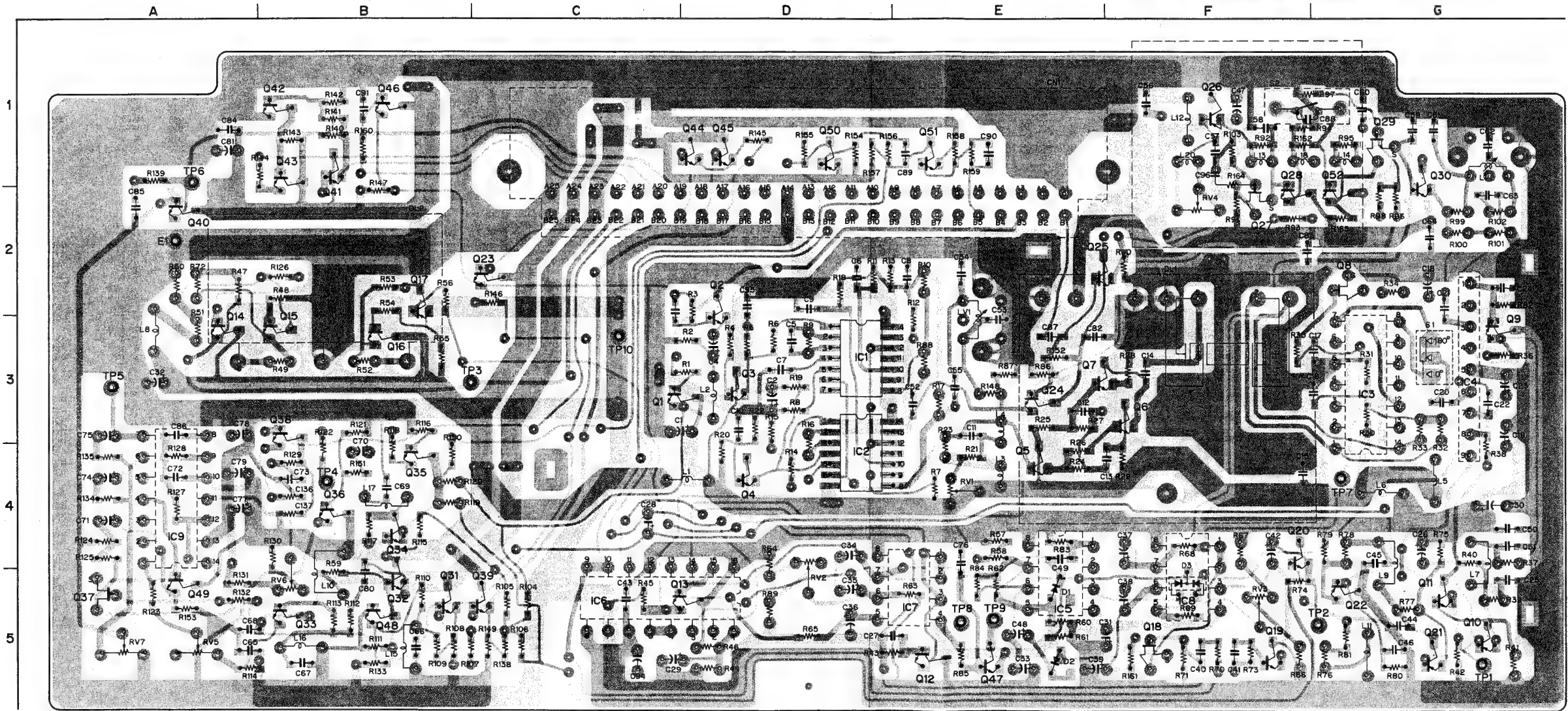


IE-14 BOARD

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 10206 and higher	Ser. No. 50771 and higher
UC	10811 and higher	50001 and higher
EK	10441 and higher	70001 and higher
BR	10001 and higher	



DXC-3000 (J) 10206~11325  
DXC-3000 (UC) 10811~13180  
DXC-3000P (EK) 10441~13475  
DXC-3000P(BR) 10001~10100

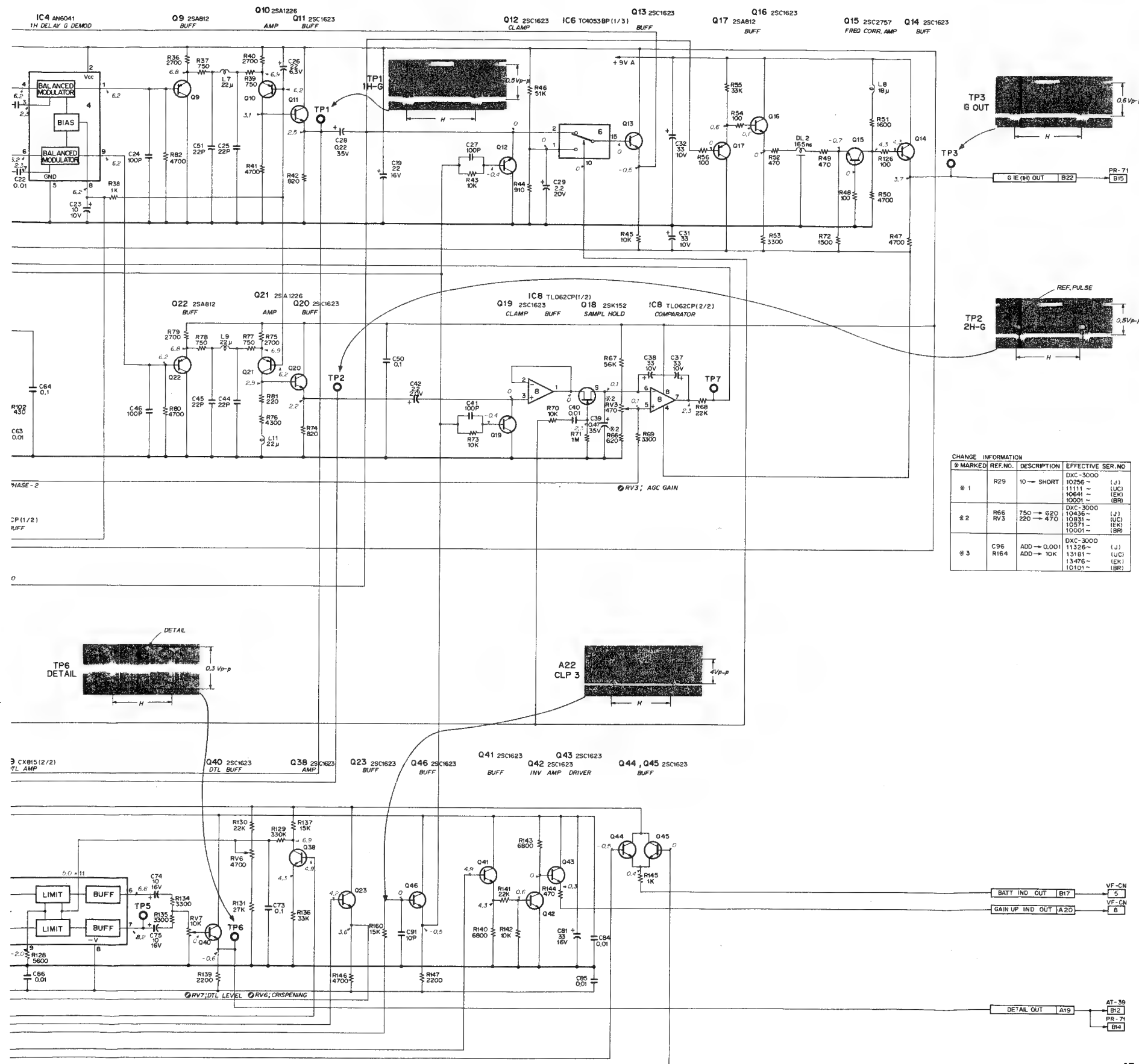


CN1	D-1	Q26	F-2
D1	E-5	Q27	F-2
D2	E-5	Q28	F-2
D3	F-5	Q29	G-1
		Q30	G-2
DL1	F-3	Q31	B-5
DL2	B-2	Q32	B-5
		Q33	B-5
E-1	A-2	Q34	B-4
		Q35	B-4
IC1	D-3	Q36	B-4
IC2	D-4	Q37	A-5
IC3	G-3	Q38	B-3
IC4	G-3	Q39	C-5
IC5	E-5	Q40	A-2
IC6	C-5	Q41	B-1
IC7	E-5	Q42	B-1
IC8	F-5	Q43	B-1
IC9	A-4	Q44	D-1
LV1	E-3	Q45	D-1
LV2	G-1	Q46	B-1
		Q47	E-5
Q1	C-3	Q48	B-5
Q2	D-3	Q49	A-5
Q3	D-3	Q50	D-1
Q4	E-4	Q51	E-1
Q5	E-4	Q52	G-2
Q6	F-3	RV1	E-4
Q7	F-3	RV2	D-5
Q8	G-2	RV3	F-5
Q9	G-3	RV4	F-2
Q10	G-5	RV5	A-5
Q11	G-5	RV6	B-5
Q12	E-5	RV7	A-5
Q13	C-5	S1	G-3
Q14	A-3	S2	F-1
Q15	B-3	TP1	G-5
Q16	B-3	TP2	G-5
Q17	B-2	TP3	B-3
Q18	F-5	TP4	B-4
Q19	F-5	TP5	A-3
Q20	F-4	TP6	A-1
Q21	G-5	TP7	G-4
Q22	G-5	TP8	E-5
Q23	C-2	TP9	E-5
Q24	E-3	TP10	C-3
Q25	E-2		

IE-14 BOARD  
-SOLDERING SIDE-

1-617-353-12  
DXC-3000 (J) 11326~  
DXC-3000 (UC) 13181~  
DXC-3000P (EK) 13476~  
DXC-3000P(BR) 10101~  
DXC-3000A (J) 50771~  
DXC-3000A (UC) 50001~  
DXC-3000A (EK) 70001~





## 注意:

- DC 電圧はデジタル電圧計(入力インピーダンス 10 MΩ)による値。
- 波形写真及び DC 電圧は下記条件で測定。
  - FILTER 切り換えつまみ → 1 位置
  - BARS/WB スイッチ → 3200°K 位置
  - GAIN 切り換えスイッチ → 0 dB 位置
  - ホワイトウインドウチャートを撮像し、波形モニターにて、ビデオ出力レベルが 100 IRE になる様に、レンズ絞りをセットする。(F ≒ 4~5.6)

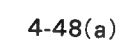
## NOTE:

- All voltage are dc, measured with a digital voltmeter. (input impedance: 10 MΩ)
- All waveforms are taken and DC voltage is measured in condition below.
  - Set camera FILTER selector to 1 position.
  - Set camera BARS/WB selector to 3200°K position.
  - Set camera GAIN selector to 0 dB position.
  - Shoot the white window pattern. Adjust lens iris so that a video output level is 100 IRE on the waveform monitor (F ≒ 4~5.6)

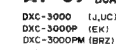
## IE-14 BOARD

DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J) 50771 ~  
DXC-3000A (UC) 50001 ~  
DXC-3000AP (BR) 70001 ~

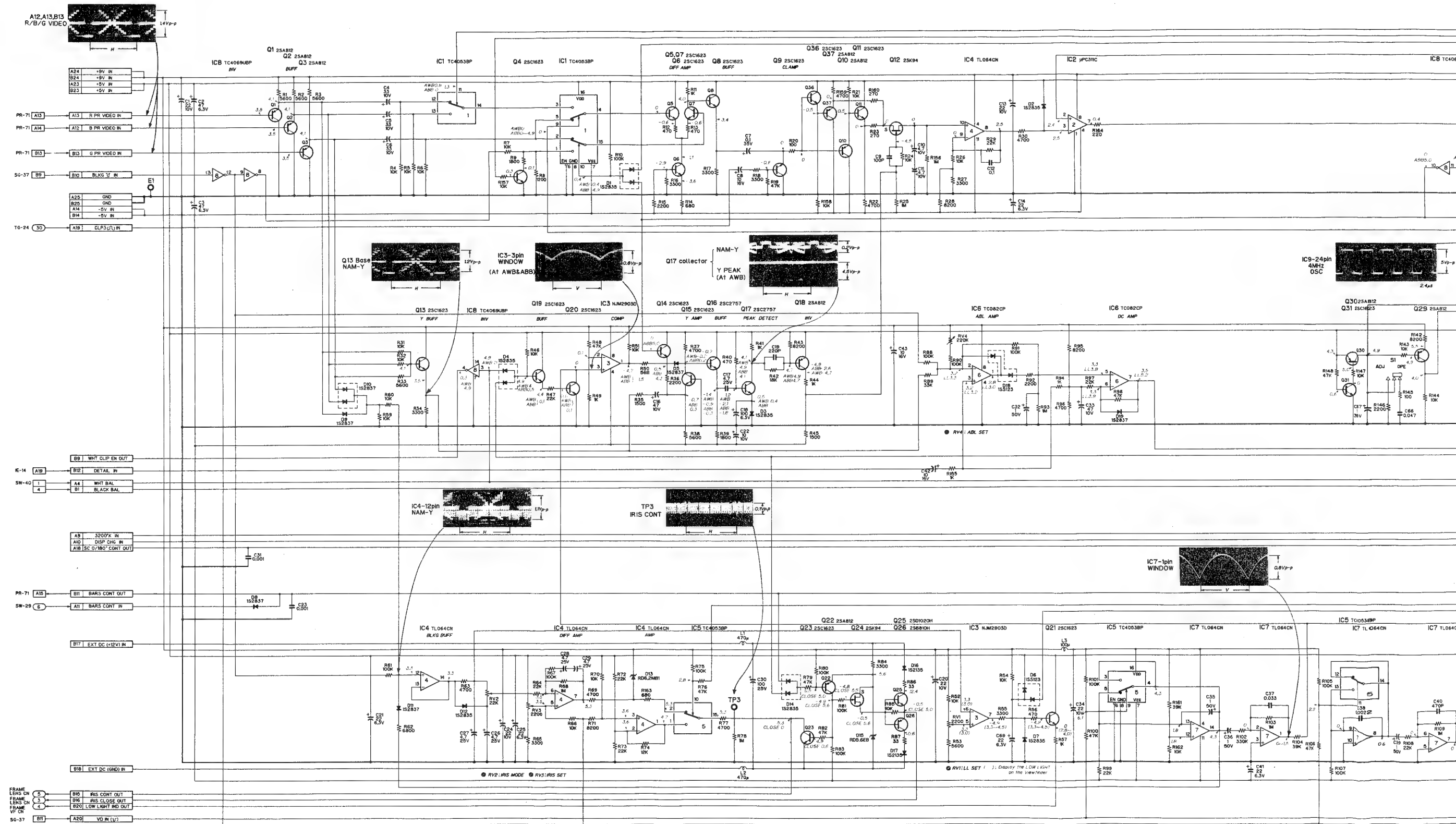
## AT-39 BOARD

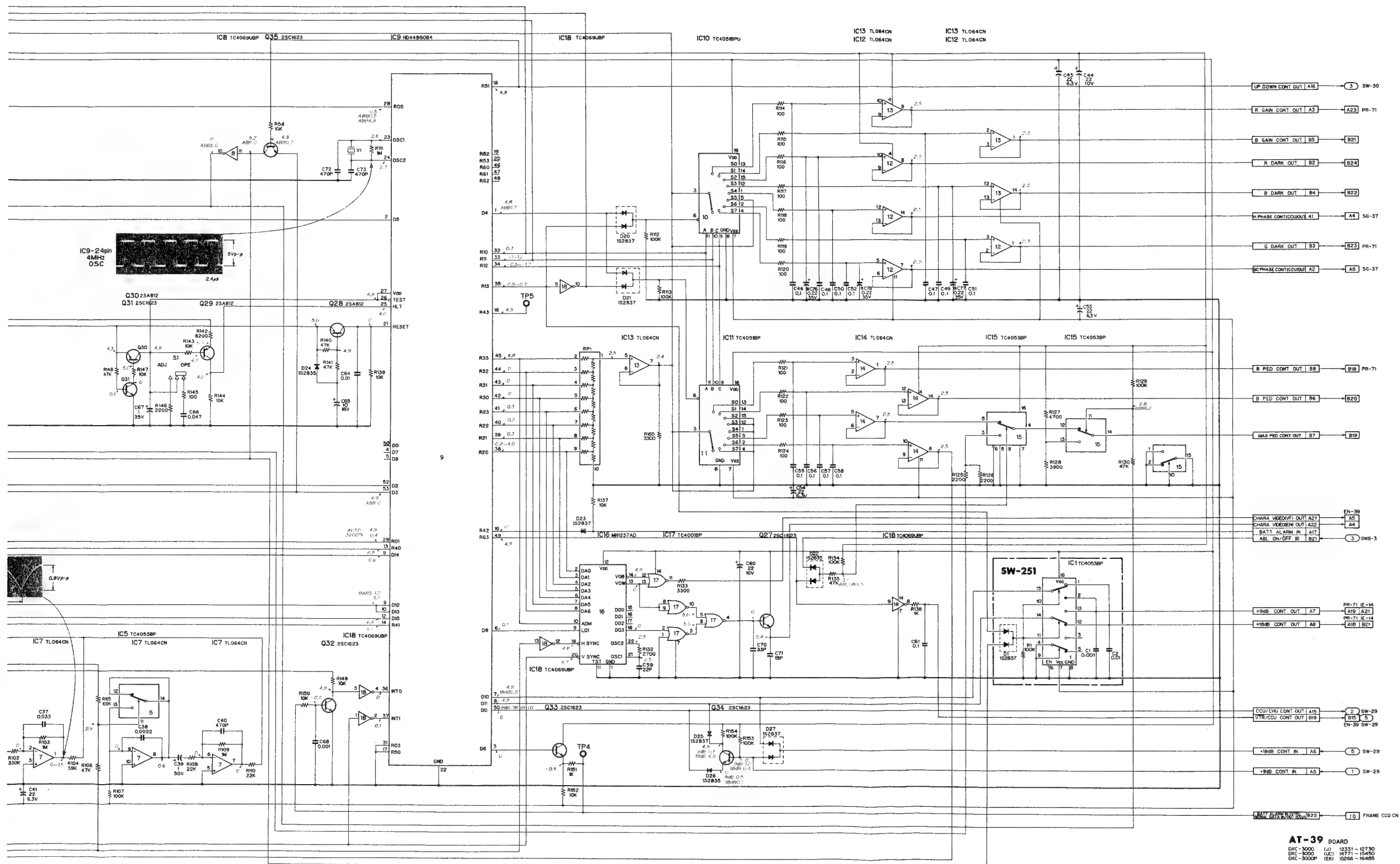






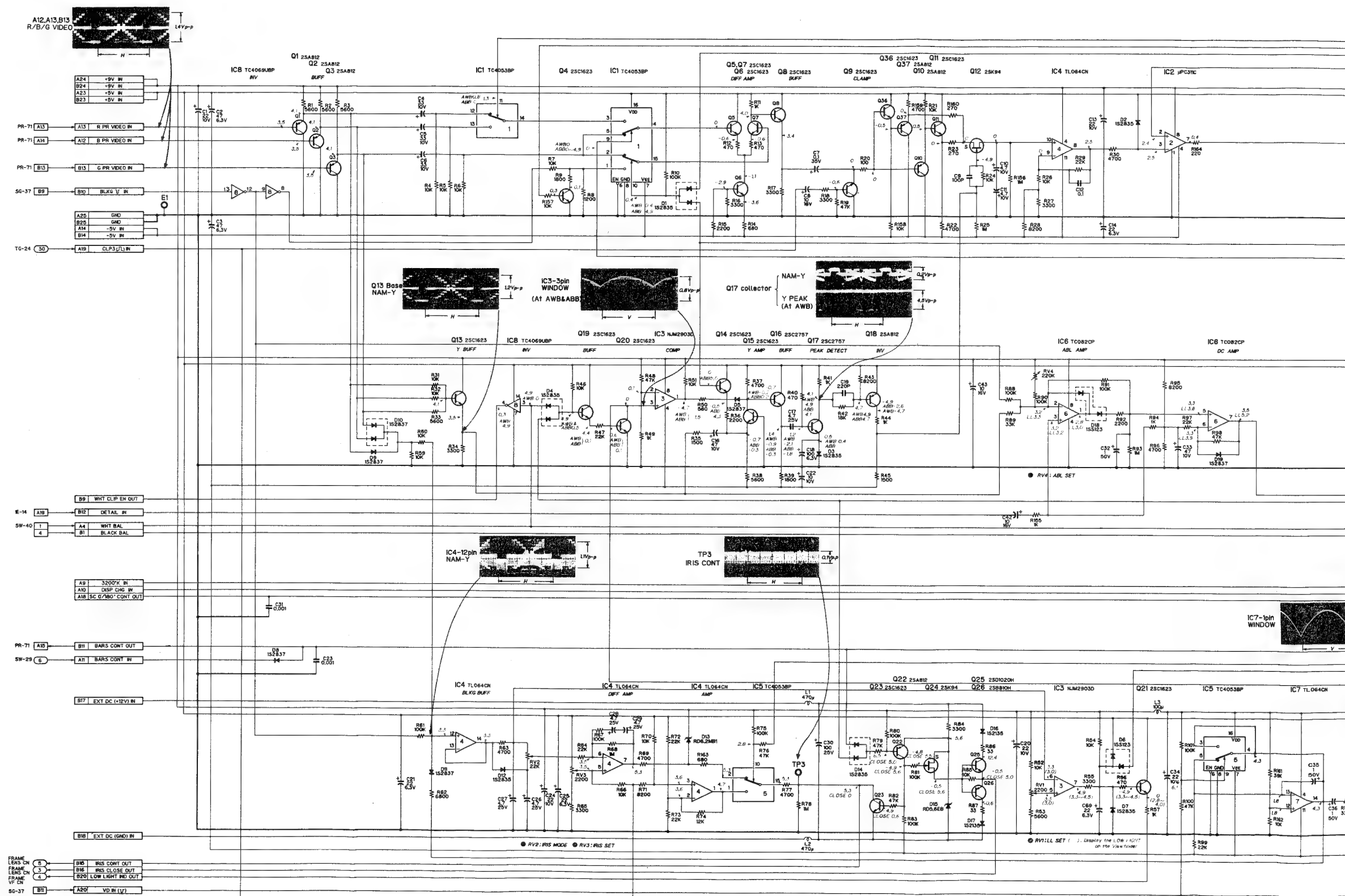
Ser. No. 12331~12730 (J)  
14771~15450 (UC)  
15266~16485 (EK)



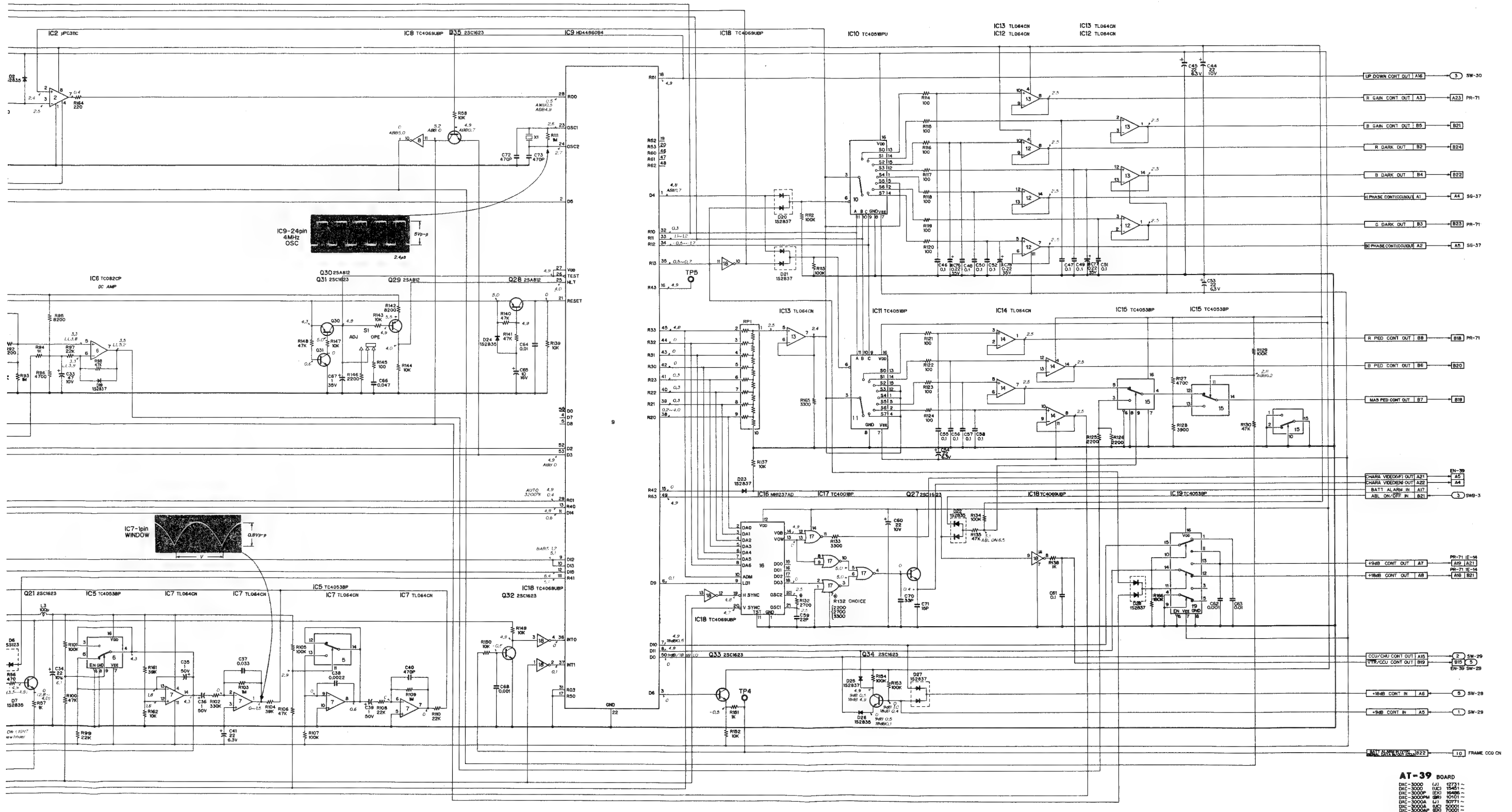


**AT-39 BOARD**

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 12731 and higher	Ser. No. 50771 and higher
UC	15451 and higher	50001 and higher
EK	16486 and higher	70001 and higher
BR	10101 and higher	







DXC-3000/P

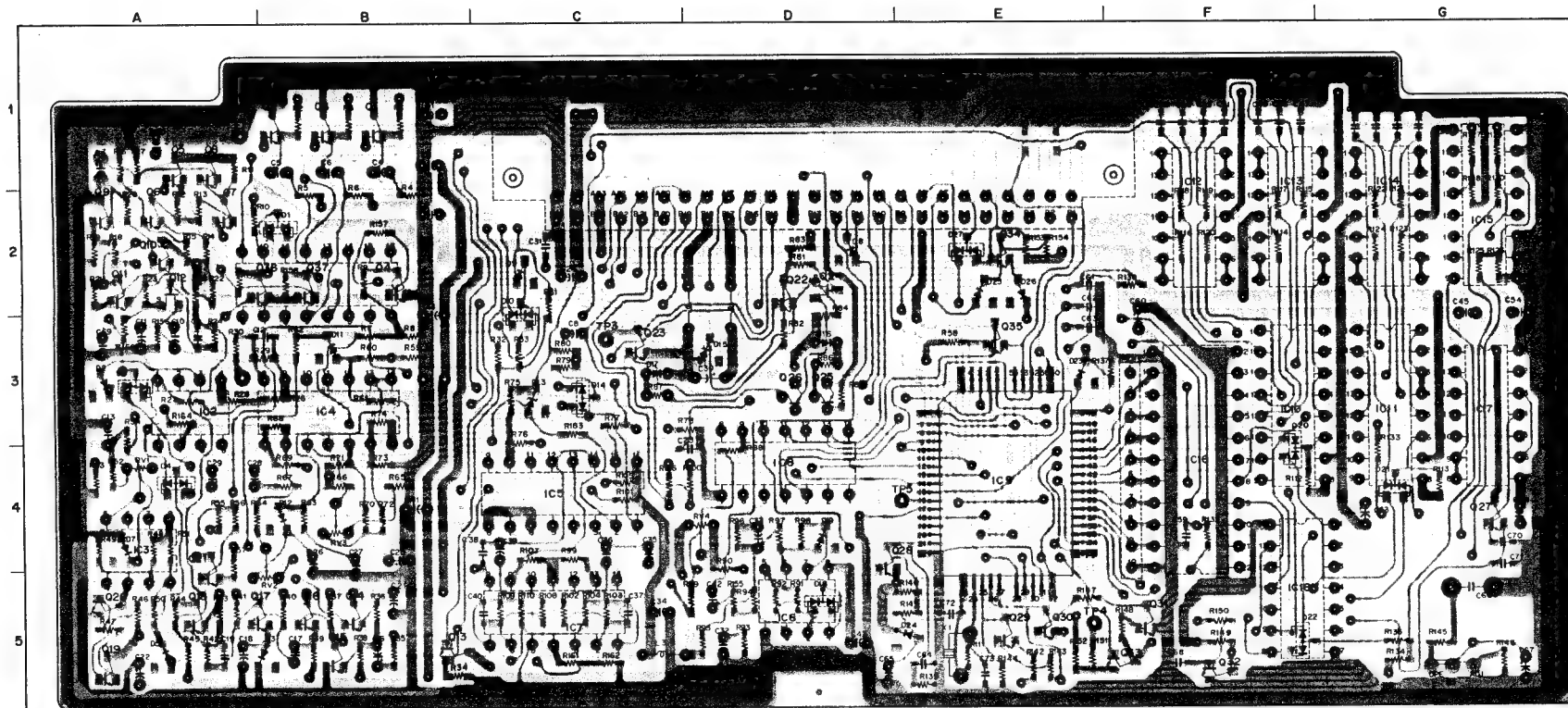
AT-39

AT-39

DXC-3000/P

## AT-39 BOARD

Ser. No. 10001 ~ 10205 (J)  
 10001 ~ 10810 (UC)  
 10001 ~ 10440 (EK)



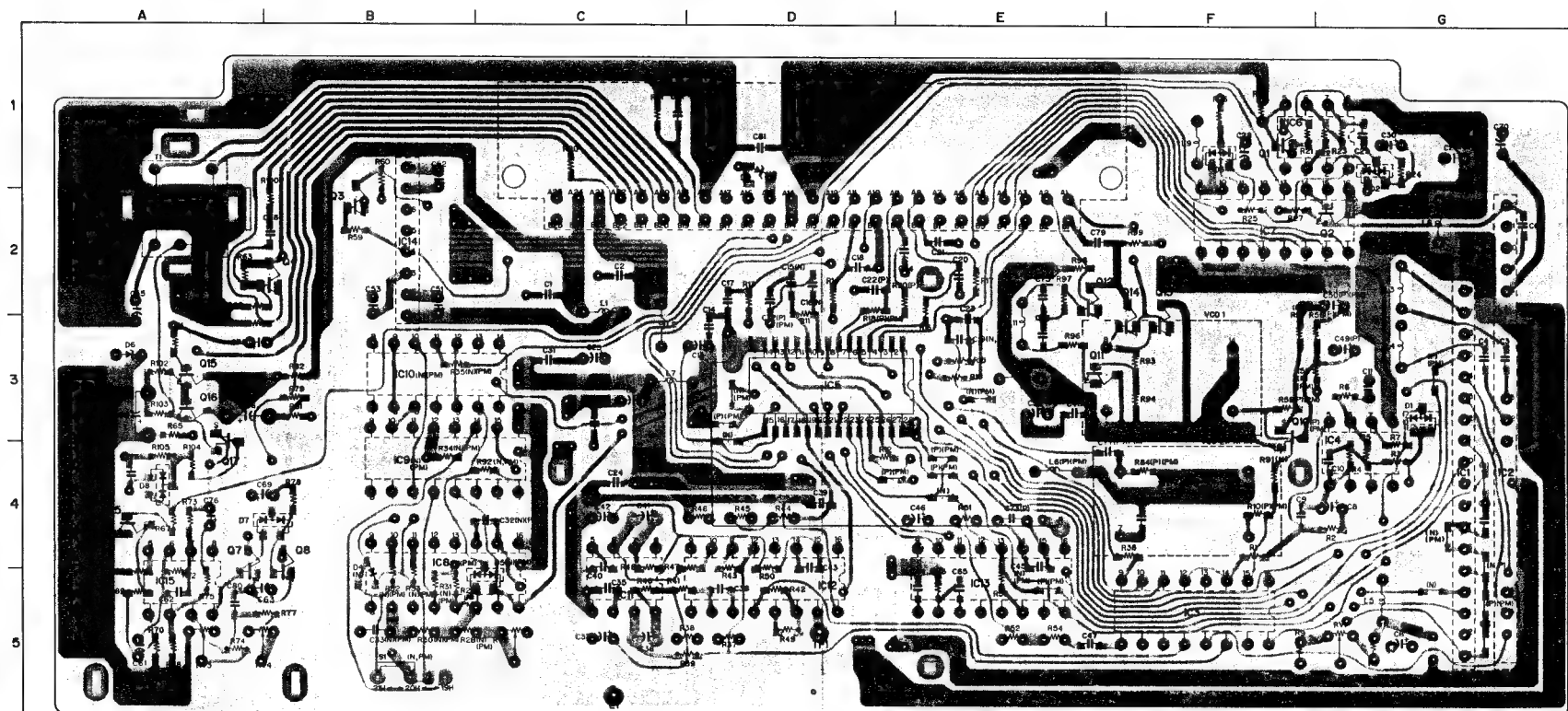
AT-39 BOARD  
 -SOLDERING SIDE-

1-87-351-11  
 DXC-3000 (J, UC)  
 DXC-3000 (EK)

CN1	D-1	Q1	B-1
D1	B-2	Q2	B-1
D2	A-3	Q3	B-1
D3	B-5	Q4	B-2
D4	A-4	Q5	A-1
D5	A-5	Q6	A-2
D6	A-3	Q7	A-2
D7	A-4	Q8	A-1
D8	D-2	Q9	A-2
D9	C-2	Q10	A-2
D10	C-2	Q11	A-2
D11	B-3	Q12	A-2
D12	B-4	Q13	B-5
D13	C-3	Q14	B-5
D14	C-3	Q15	B-5
D15	D-3	Q16	B-5
D16	D-3	Q17	A-5
D17	C-3	Q18	A-5
D18	D-5	Q19	A-5
D19	D-4	Q20	A-5
D20	F-4	Q21	A-5
D21	G-4	Q22	D-2
D22	F-5	Q23	C-3
D23	E-3	Q24	D-2
D24	E-5	Q25	D-3
D25	F-2	Q26	D-3
D26	E-2	Q27	G-4
D27	E-2	Q28	D-4
E1	A-1	Q29	E-5
IC1	B-2	Q30	E-5
IC2	A-3	Q31	F-5
IC3	A-4	Q32	F-5
IC4	B-3	Q33	F-5
IC5	C-4	Q34	E-2
IC6	D-5	Q35	E-3
IC7	C-5	Q36	A-2
IC8	D-4	Q37	B-2
IC9	E-4	RP1	F-4
IC10	F-3	RV1	A-4
IC11	G-3	RV2	B-5
IC12	F-2	RV3	B-4
IC13	F-2	RV4	D-4
IC14	G-2	S1	G-8
IC15	G-2	TP3	C-3
IC16	F-4	TP4	E-5
IC17	G-3	TP5	E-4
IC18	F-5	X1	E-5

## SG-37 BOARD

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 12731 and higher	Ser. No. 50771 and higher
UC	15451 and higher	50001 and higher
EK	16486 and higher	70001 and higher
BR	10101 and higher	



CN1	D-1	VC01	F-3
D1	G-3	VC02	F-4
D2	G-1		
D3	F-1		
D4	B-5		
D5	C-5		
D6	A-3		
D7	B-4		
D8	A-4		
D9	D-1		
E1	C-5		
IC1	G-4		
IC2	G-4		
IC3	F-5		
IC4	G-4		
IC5	D-3		
IC6	G-1		
IC7	F-2		
IC8	B-5		
IC9	B-4		
IC10	B-3		
IC11	C-5		
IC12	D-5		
IC13	E-5		
IC14	B-2		
IC15	A-5		
Q1	F-1		
Q2	G-2		
Q3	B-2		
Q4	B-2		
Q5	A-4		
Q7	A-5		
Q8	B-5		
Q10	F-3		
Q11	E-3		
Q12	E-2		
Q13	F-3		
Q14	F-3		
Q15	A-3		
Q16	A-3		
Q17	A-3		
RV1	G-5		
RV2	C-5		
RV3	A-5		
RV4	A-5		
S1	B-5		
T1	A-2		
TP1	D-5		

## SG-37 BOARD

## -SOLDERING SIDE-

1-617-355-92,13  
DXC-3000 (J) 12731 ~  
DXC-3000 (UC) 15451 ~  
DXC-3000P (EK) 16486 ~  
DXC-3000PMBR 10101 ~  
DXC-3000A (J) 50771 ~  
DXC-3000A (UC) 50001 ~  
DXC-3000APMBR 70001 ~

DXC-3000/P

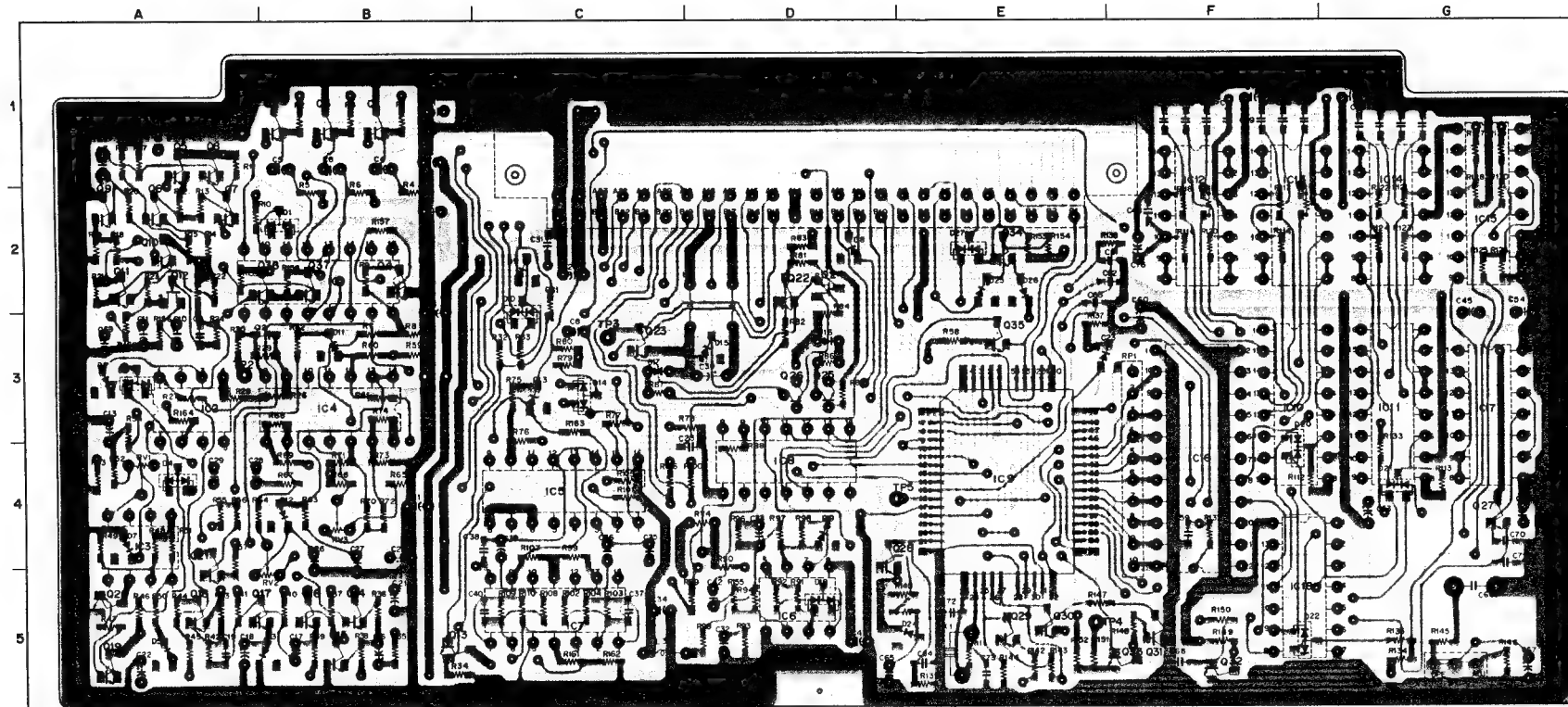
AT-39

AT-39

DXC-3000/P

## AT-39 BOARD

Ser. No. 10206 ~10435 (J)  
10811 ~10830 (UC)  
10441 ~10570 (EK)



CN1	B-1	Q1	B-1
D1	B-2	Q2	B-1
D2	A-3	Q3	B-1
D3	B-5	Q4	B-2
D4	A-4	Q5	A-1
D5	A-5	Q6	A-2
D6	A-3	Q7	A-2
D7	A-4	Q8	A-1
D8	D-2	Q9	A-2
D9	C-2	Q10	A-2
D10	C-2	Q11	A-2
D11	B-3	Q12	A-2
D12	B-4	Q13	B-5
D13	C-3	Q14	B-5
D14	C-3	Q15	B-5
D15	D-3	Q16	B-5
D16	D-3	Q17	A-5
D17	C-3	Q18	A-5
D18	D-5	Q19	A-5
D19	D-4	Q20	A-5
D20	F-4	Q21	A-5
D21	G-4	Q22	D-2
D22	F-5	Q23	C-3
D23	E-3	Q24	D-2
D24	E-5	Q25	D-3
D25	E-2	Q26	D-3
D26	E-2	Q27	G-4
D27	E-2	Q28	D-4
E1	A-1	Q29	E-5
IC1	B-2	Q30	E-5
IC2	A-3	Q31	F-5
IC3	A-4	Q32	F-5
IC4	B-3	Q33	F-5
IC5	C-4	Q34	E-2
IC6	D-5	Q35	E-3
IC7	C-5	Q36	A-2
IC8	D-4	Q37	B-2
IC9	E-4	RP1	F-4
IC10	F-3	RV1	A-4
IC11	G-3	RV2	B-5
IC12	F-2	RV3	B-4
IC13	F-2	RV4	D-4
IC14	G-2	S1	G-5
IC15	G-2	TP3	C-3
IC16	F-4	TP4	E-5
IC17	G-3	TP5	E-4
IC18	F-5	X1	E-8

AT-39 BOARD  
-SOLDERING SIDE-

1-517-351-12  
DXC-3000 (J, UC)  
DXC-3000P (EK)

DXC-3000/P/PM

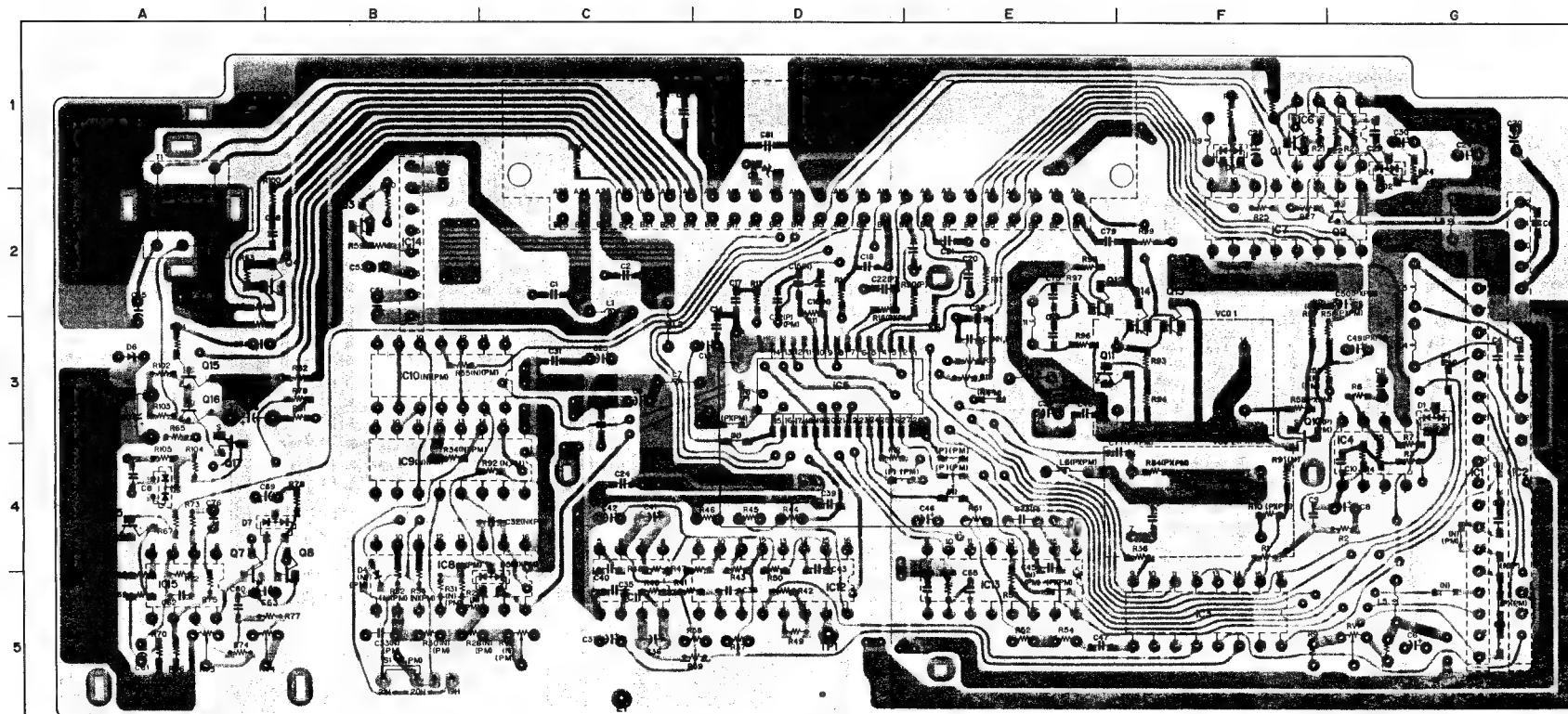
SG-37

SG-37

DXC-3000/P/PM

## SG-37 BOARD

Ser. No. 10001~12730 (J)  
 10001~15450 (UC)  
 10001~16485 (EK)  
 10001~10100 (BR)



CN1	D-1	VC01	F-3
D1	G-3	VC02	F-4
D2	G-1		
D3	F-1		
D4	B-5		
D5	C-5		
D6	A-3		
D7	B-4		
D8	A-4		
D9	D-1		
E1	C-5		
IC1	G-4		
IC2	G-4		
IC3	F-5		
IC4	G-4		
IC5	D-3		
IC6	G-1		
IC7	F-2		
IC8	B-5		
IC9	B-4		
IC10	B-3		
IC11	C-5		
IC12	D-5		
IC13	E-5		
IC14	B-2		
IC15	A-5		
Q1	F-1		
Q2	G-2		
Q3	B-2		
Q4	B-2		
Q5	A-4		
Q7	A-5		
Q8	B-5		
Q10	F-3		
Q11	E-3		
Q12	E-2		
Q13	F-3		
Q14	F-3		
Q15	A-3		
Q16	A-3		
Q17	A-3		
RV1	G-5		
RV2	C-5		
RV3	A-5		
RV4	A-5		
S1	B-5		
T1	A-2		
TP1	B-5		

## SG-37 BOARD

-SOLDERING SIDE-

1-617-355-11  
 DXC-3000 (J,UC)  
 DXC-3000P (EK)  
 DXC-3000PMBR21

DXC-3000/P/PM

AT-39  
SW-251AT-39  
SW-251

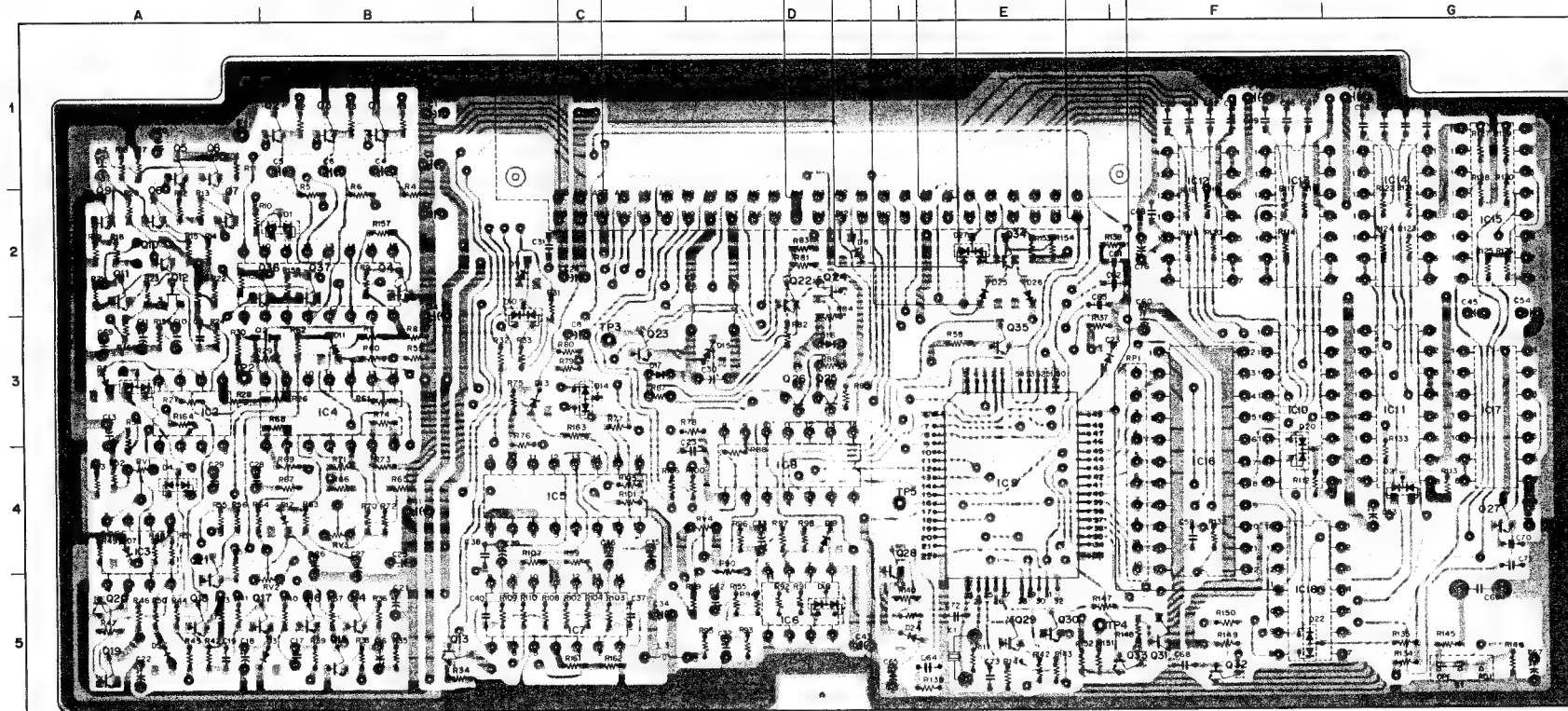
DXC-3000/P/PM

## AT-39 BOARD

Ser. No. 10436~12730 (J)  
10831~15450 (UC)  
10571~16485 (EK)  
10001~10100 (BRZ)



**SW-251 BOARD**  
-SOLDERING SIDE-  
1-613-318-11  
DXC-3000 LJ 12331~12730  
DXC-3000 ICH4771~15450  
DXC-3000 ICH5255~16485



CN1	D-1	Q1	B-1
D1	B-2	Q2	B-1
D2	A-3	Q3	B-1
D3	B-5	Q4	B-2
D4	A-4	Q5	A-1
D5	A-5	Q6	A-2
D6	A-3	Q7	A-2
D7	A-4	Q8	A-1
D8	D-2	Q9	A-2
D9	C-2	Q10	A-2
D10	C-2	Q11	A-2
D11	B-3	Q12	A-2
D12	B-4	Q13	B-5
D13	C-3	Q14	B-5
D14	C-3	Q15	B-5
D15	D-3	Q16	B-5
D16	D-3	Q17	A-5
D17	C-3	Q18	A-5
D18	D-5	Q19	A-5
D19	D-4	Q20	A-5
D20	F-4	Q21	A-5
D21	G-4	Q22	D-2
D22	F-5	Q23	C-3
D23	E-3	Q24	D-2
D24	E-5	Q25	D-3
D25	E-2	Q26	D-3
D26	E-2	Q27	G-4
D27	E-2	Q28	D-4
E1	A-1	Q29	E-5
IC1	B-2	Q30	E-5
IC2	A-3	Q31	F-5
IC3	A-4	Q32	F-5
IC4	B-3	Q33	F-5
IC5	C-4	Q34	E-2
IC6	D-5	Q35	E-3
IC7	C-5	Q36	A-2
IC8	D-4	Q37	B-2
IC9	E-4	RP1	F-4
IC10	F-3	RV1	A-4
IC11	G-3	RV2	B-5
IC12	F-2	RV3	B-4
IC13	F-2	RV4	D-4
IC14	G-2	S1	G-5
IC15	G-2	TP3	C-3
IC16	F-4	TP4	E-5
IC17	G-3	TP5	E-4
IC18	F-5	X1	E-5

**AT-39 BOARD**  
-SOLDERING SIDE-  
1-617-351-13  
DXC-3000 (J)  
DXC-3000 ICH  
DXC-3000P (EK)  
DXC-3000PM (BZ)



DXC-3000/P/PM  
DXC-3000A/AP

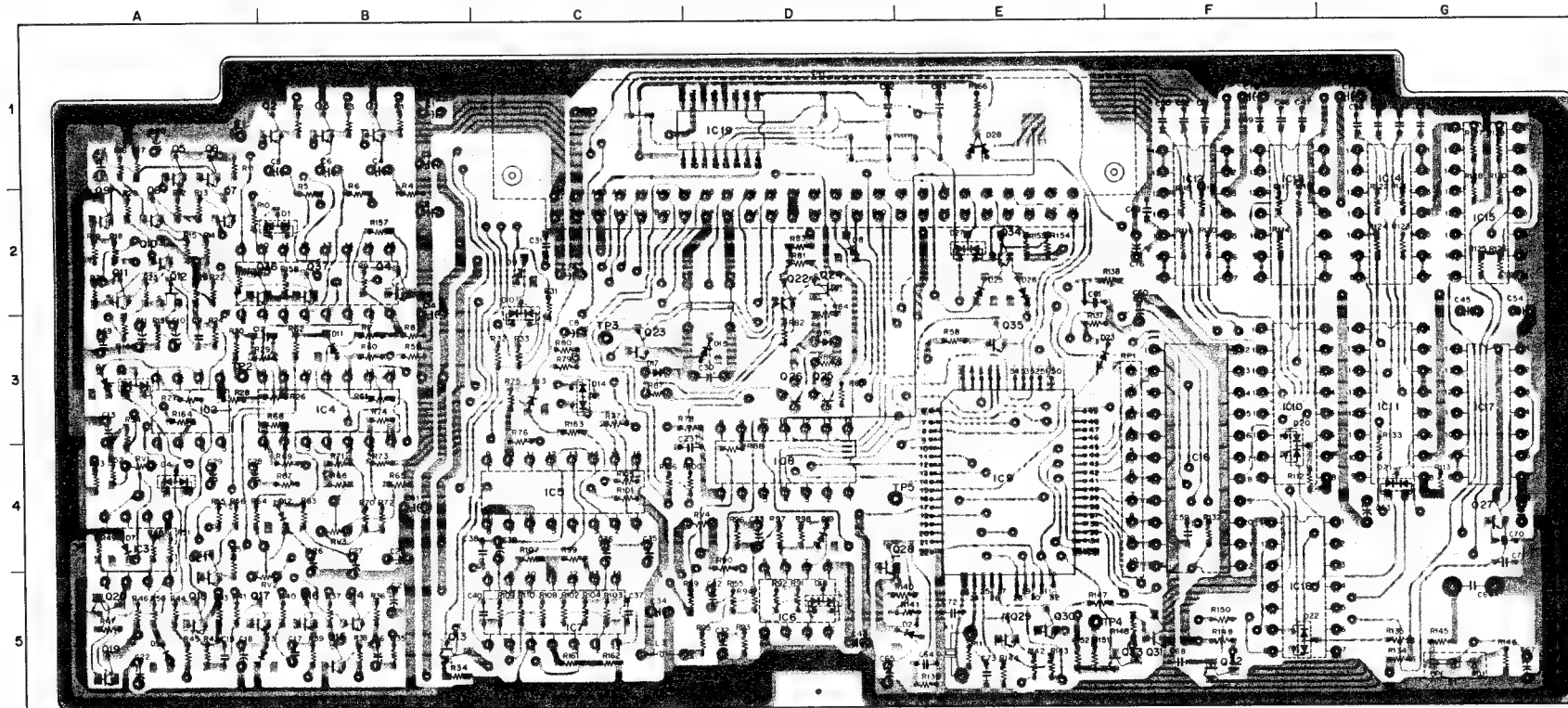
AT-39

AT-39

DXC-3000/P/PM  
DXC-3000A/AP

# AT-39 BOARD

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 12731 and higher	Ser. No. 50771 and higher
UC	15451 and higher	50001 and higher
EK	16486 and higher	70001 and higher
BR	10101 and higher	



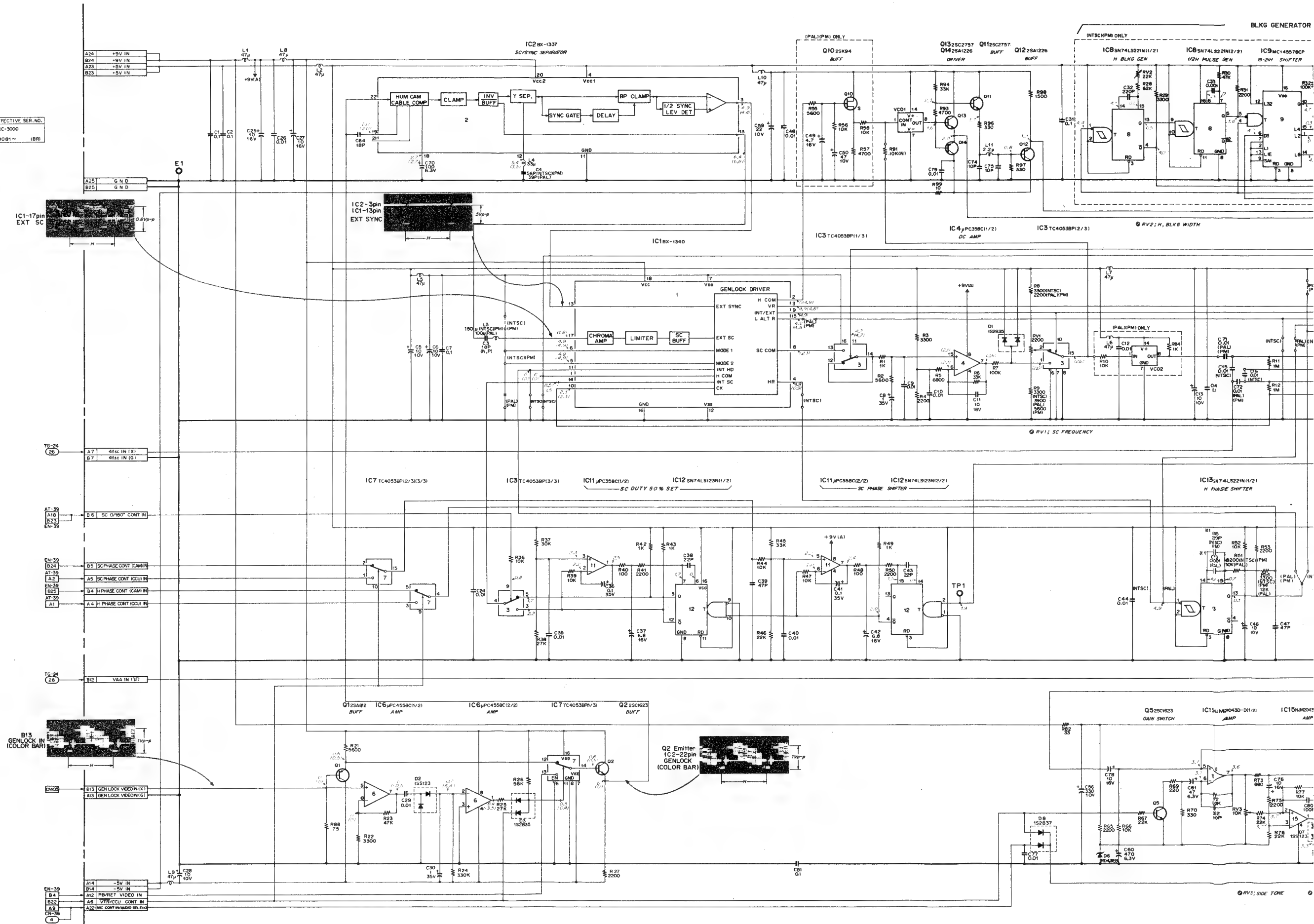
CN1	D-1	Q1	B-1
D1	B-2	Q2	B-1
D2	A-3	Q3	B-1
D3	B-5	Q4	B-2
D4	A-4	Q5	A-1
D5	A-5	Q6	A-2
D6	A-3	Q7	A-2
D7	A-4	Q8	A-1
D8	D-2	Q9	A-2
D9	C-2	Q10	A-2
D10	C-2	Q11	A-2
D11	B-3	Q12	A-2
D12	B-4	Q13	B-5
D13	C-3	Q14	B-5
D14	C-3	Q15	B-5
D15	D-3	Q16	B-5
D16	D-3	Q17	A-5
D17	C-3	Q18	A-5
D18	D-5	Q19	A-5
D19	D-4	Q20	A-5
D20	F-4	Q21	A-5
D21	G-4	Q22	D-2
D22	F-5	Q23	C-3
D23	E-3	Q24	D-2
D24	E-5	Q25	D-3
D25	F-2	Q26	D-3
D26	E-2	Q27	G-4
D27	E-2	Q28	D-4
D28	E-1	Q29	E-5
E1	A-1	Q30	E-5
IC1	B-2	Q31	F-5
IC2	A-3	Q32	F-5
IC3	A-4	Q33	F-5
IC4	B-3	Q34	E-2
IC5	C-4	Q35	E-3
IC6	D-5	Q36	A-3
IC7	C-5	Q37	B-2
IC8	D-4	RP1	F-4
IC9	E-4	RV1	A-4
IC10	F-3	RV2	B-5
IC11	G-3	RV3	B-4
IC12	F-2	RV4	D-4
IC13	F-2	S1	G-5
IC14	G-2	TP3	C-3
IC15	G-2	TP4	E-5
IC16	F-4	TP5	E-4
IC17	G-3	X1	E-5
IC18	F-5		
IC19	D-1		

## AT-39 BOARD -SOLDERING SIDE-

I-617-351-14,15  
DXC-3000 (J) 12731 -  
DXC-3000 (J) 15451 -  
DXC-3000P (E) 16486 -  
DXC-3000P (E) 16486 -  
DXC-3000A (J) 50771 -  
DXC-3000A (J) 50771 -  
DXC-3000A (J) 50001 -  
DXC-3000A (J) 70001 -

SG-37 BOARD

CHANGE INFORMATION			
MARKED	REF. NO.	DESCRIPTION	EFFECTIVE SER. NO.
* 1	C45	220P	DXC-3000
	C73	ADD → 0.001	10081 ~ 181



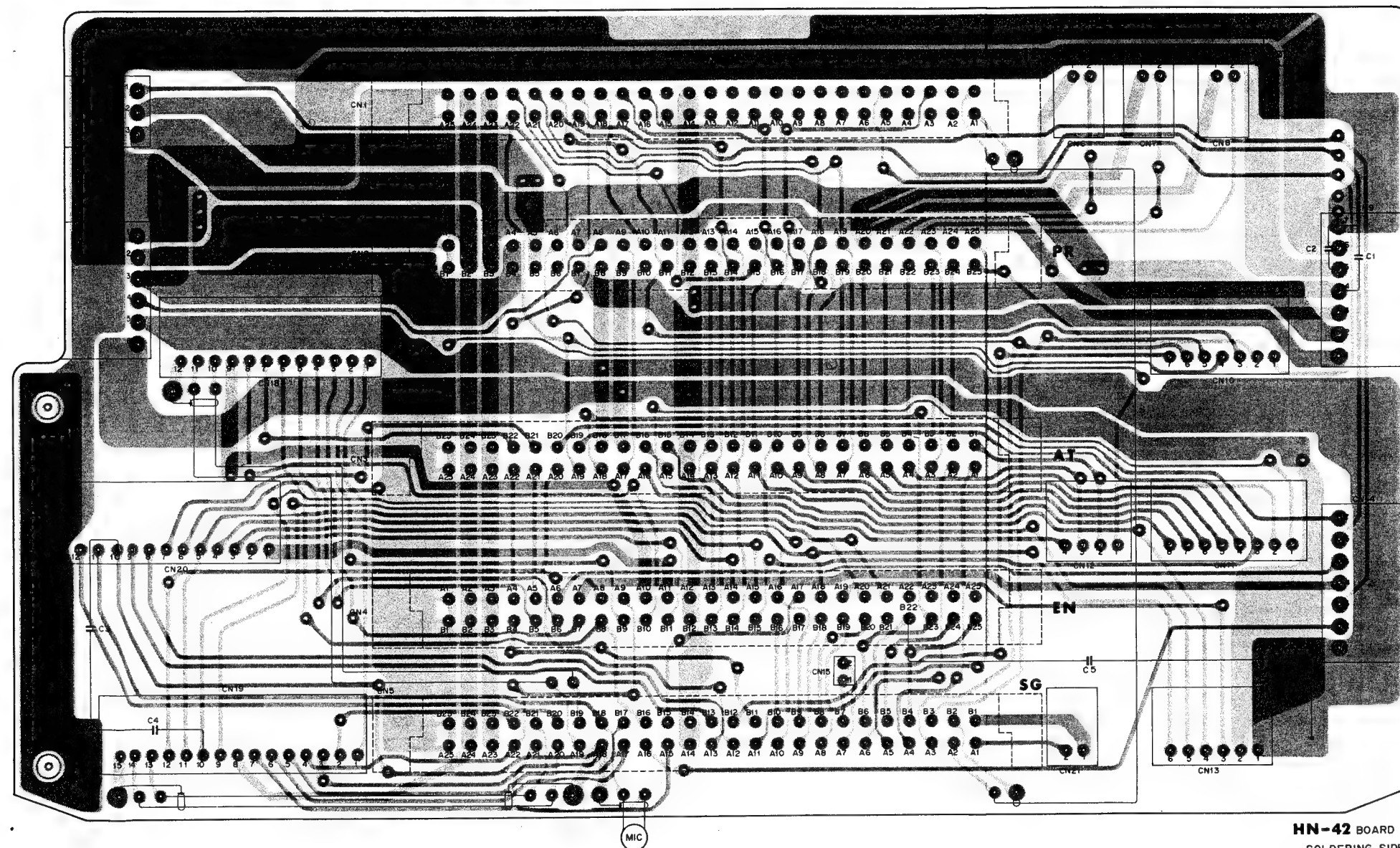




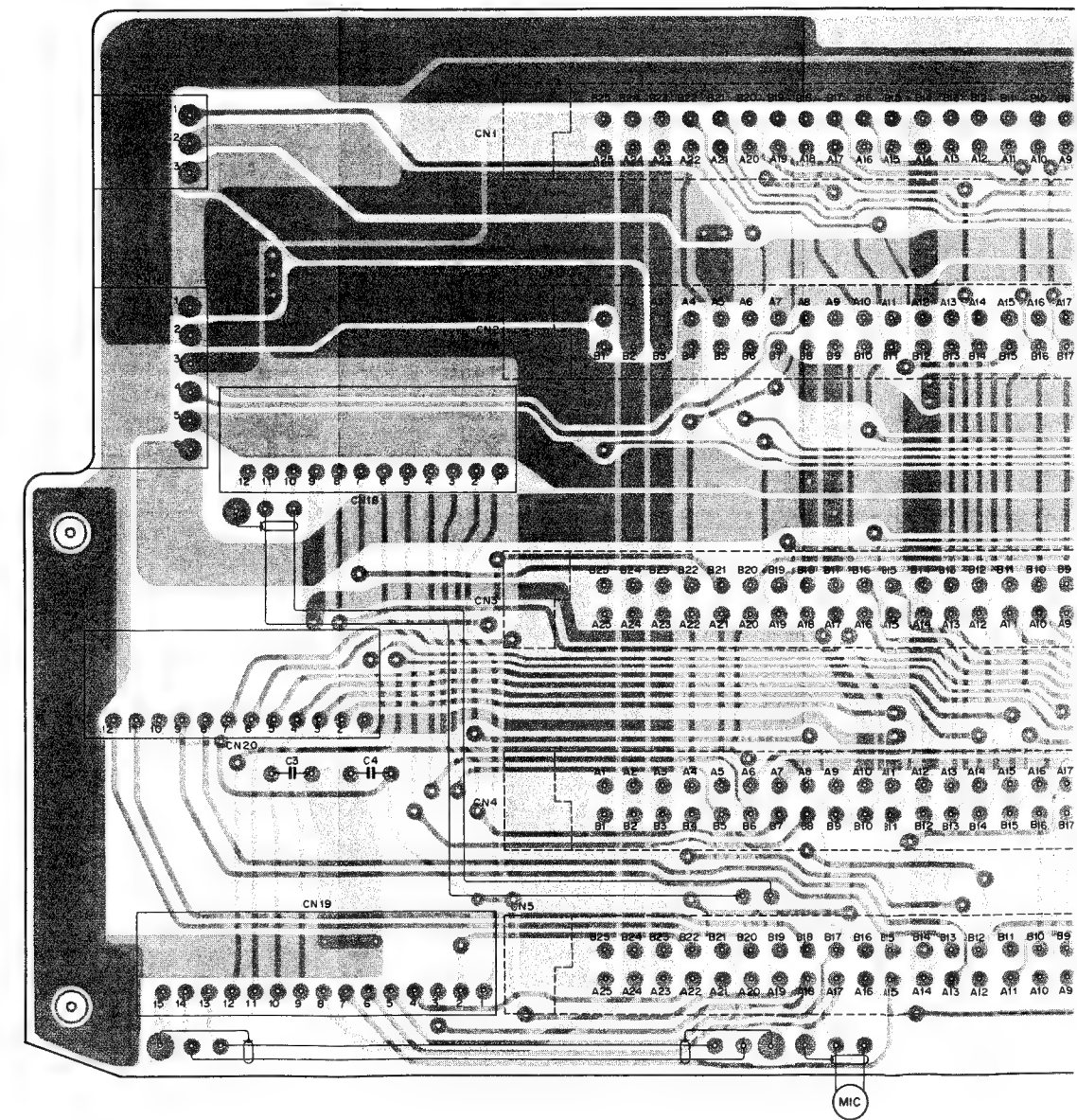
CN-36 BOARD  
CN-111 BOARD  
HN-42 BOARD  
SW-29 BOARD  
SW-30 BOARD  
SWB-13 BOARD

	DXC-3000/P
J	Ser. No. 10001~10205
UC	10001~10810
EK	10001~10440

	DXC-3000/P/PM	DXC-3000A/AP
J	Ser. No. 10206 and higher	Ser. No. 50771 and higher
UC	10811 and higher	50001 and higher
EK	10441 and higher	70001 and higher
BR	10001 and higher	

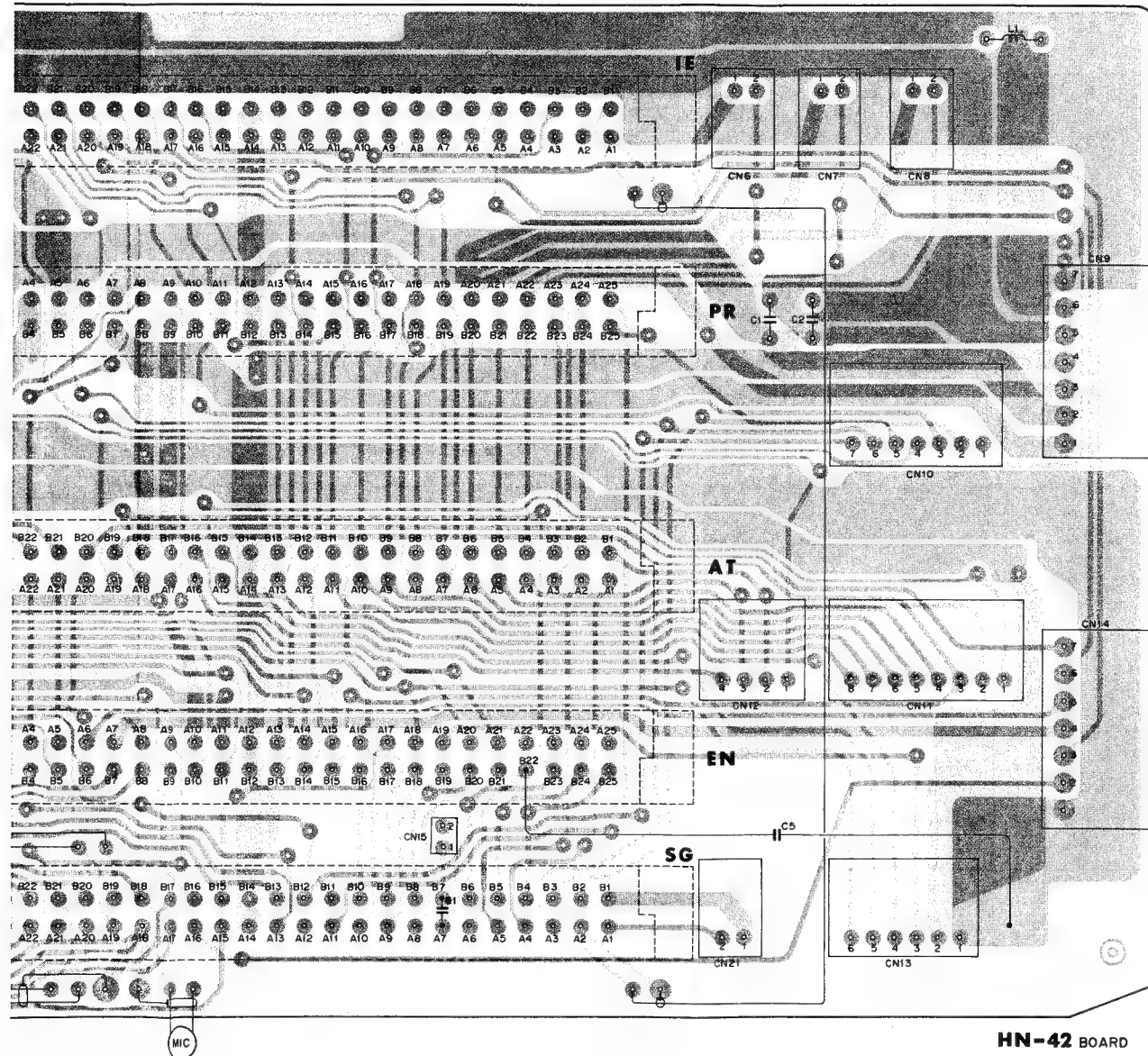


**HN-42 BOARD**  
— SOLDERING SIDE —  
1-517-356-11  
DXC-3000 (J) 10001~10205  
DXC-3000 (UC) 10001~10810  
DXC-3000 (EK) 10001~10440





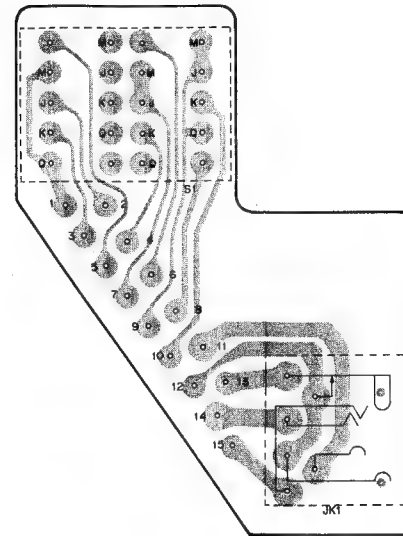
higher  
higher  
higher



**HN-42 BOARD**  
— SOLDERING SIDE —  
1-617-356-12

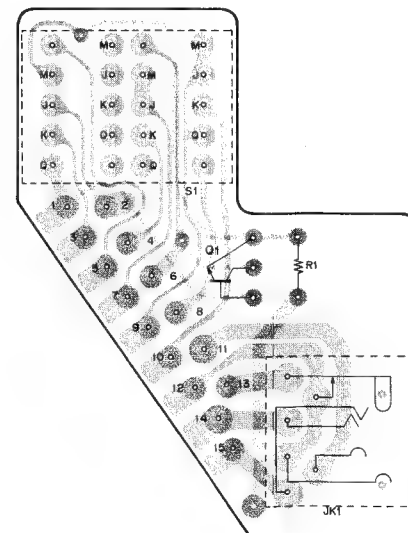
DXC-3000	(J)	10206~
DXC-3000	(UC)	10811~
DXC-3000P	(EK)	10441~
DXC-3000PM	(BR)	10001~
DXC-3000A	(J)	50771~
DXC-3000A	(UC)	50001~
DXC-3000AP	(EK)	70001~

	DXC-3000/P/PM
J	10001~12730
UC	10001~15450
EK	10001~16485
BR	10001~10100



**CN-36 BOARD**  
-SOLDERING SIDE-  
1-617-360-11,12  
DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)

	DXC-3000/P/PM	DXC-3000A/AP
J	12731 and higher	50701 and higher
UC	15451 and higher	50001 and higher
EK	16486 and higher	70001 and higher
BR	10101 and higher	

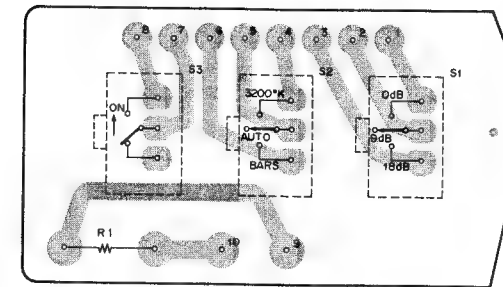


**CN-36 BOARD**  
-SOLDERING SIDE-

1-617-360-13

DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000A (UC)  
DXC-3000AP (EK)

Ser. No. 10001 ~ 10435 (J)
10001 ~ 10830 (UC)
10001 ~ 10570 (EK)



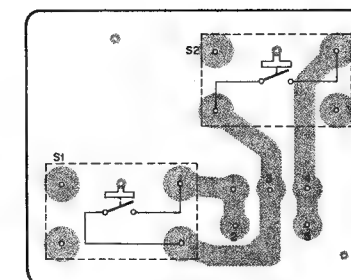
**SW-29 BOARD**  
-SOLDERING SIDE-

1-617-357-12

DXC-3000	(J)	10001~10435
DXC-3000	(UC)	10001~10830
DXC-3000P	(EK)	10001~10570



**CN-111 BOARD**  
-SOLDERING SIDE-  
1-617-361-11  
DXC-3000 (J,UC)  
DXC-3000P (EK)  
DXC-3000PM (BRZ)

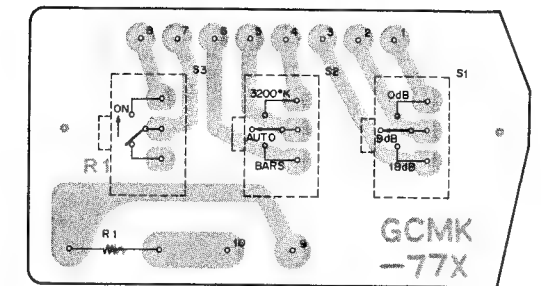


**SW-30 BOARD**  
-SOLDERING SIDE-

1-617-358-11

DXC-3000	(J)	10001~
DXC-3000	(UC)	10001~
DXC-3000P	(EK)	10001~
DXC-3000PM	(BF)	10001~
DXC-3000A	(J)	50771~
DXC-3000A	(UC)	50001~
DXC-3000AP	(EK)	70001~

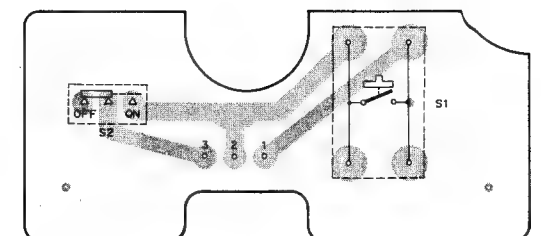
Ser. No.	10436 and higher (J)
	10831 and higher (UC)
	10571 and higher (EK)
	10001 and higher (BRZ)



**SW-29 BOARD**  
-SOLDERING SIDE-

1-617-357-13

DXC-3000	(J)	10436 ~
DXC-3000	(UC)	10831 ~
DXC-3000P	(EK)	10571 ~
DXC-3000PM	(BR)	10001 ~
DXC-3000A	(J)	50771 ~
DXC-3000A	(UC)	50001 ~
DXC-3000AP	(EK)	70001 ~



**SWB-13 BOARD**  
-SOLDERING SIDE-

1-617-359-11

DXC-3000	(J)	10001~
DXC-3000	(UC)	10001~
DXC-3000P	(EK)	10001~
DXC-3000PM	(BR)	10001~
DXC-3000A	(J)	50771~
DXC-3000A	(UC)	50001~
DXC-3000AP	(EK)	70001~

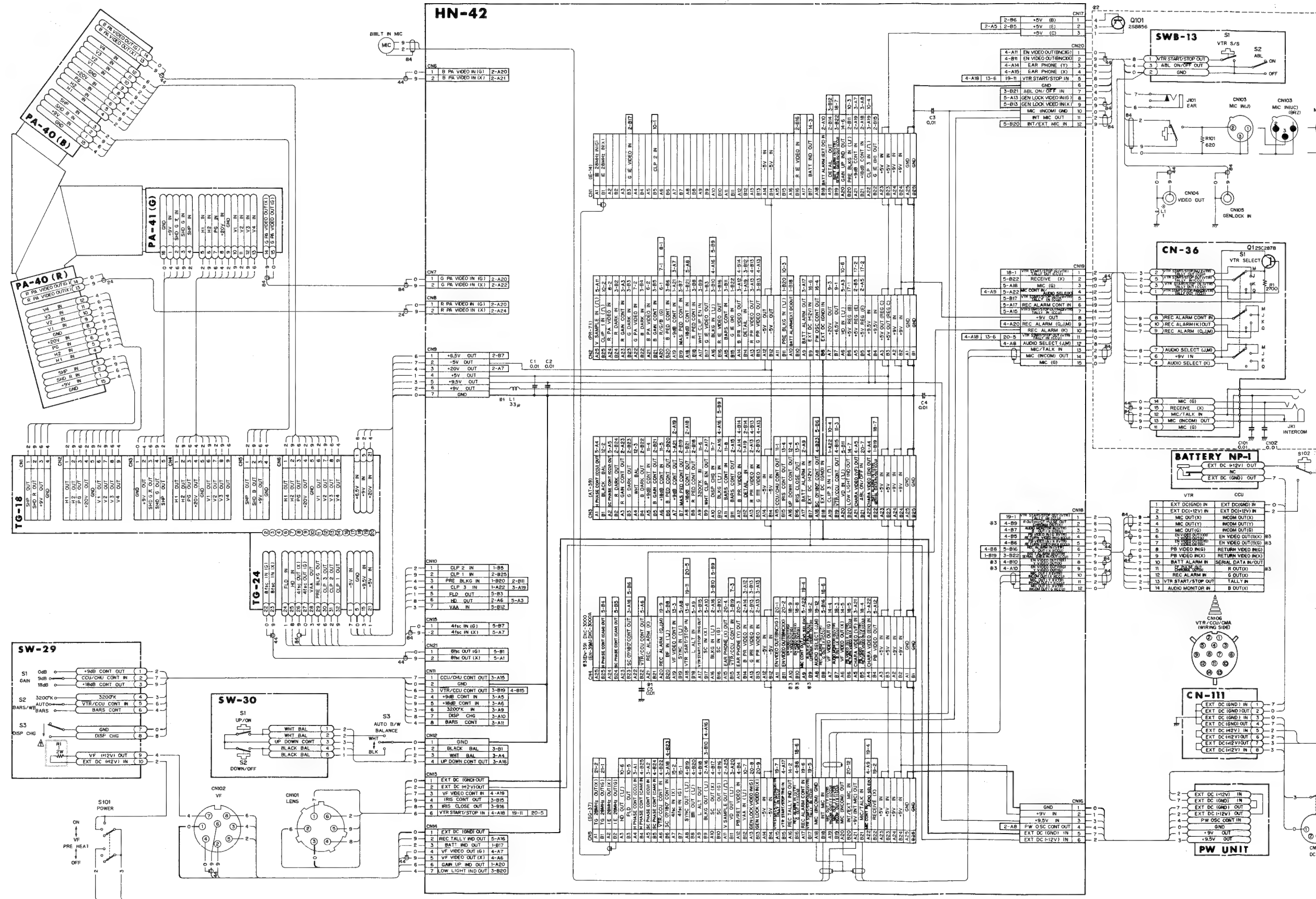
## FRAME

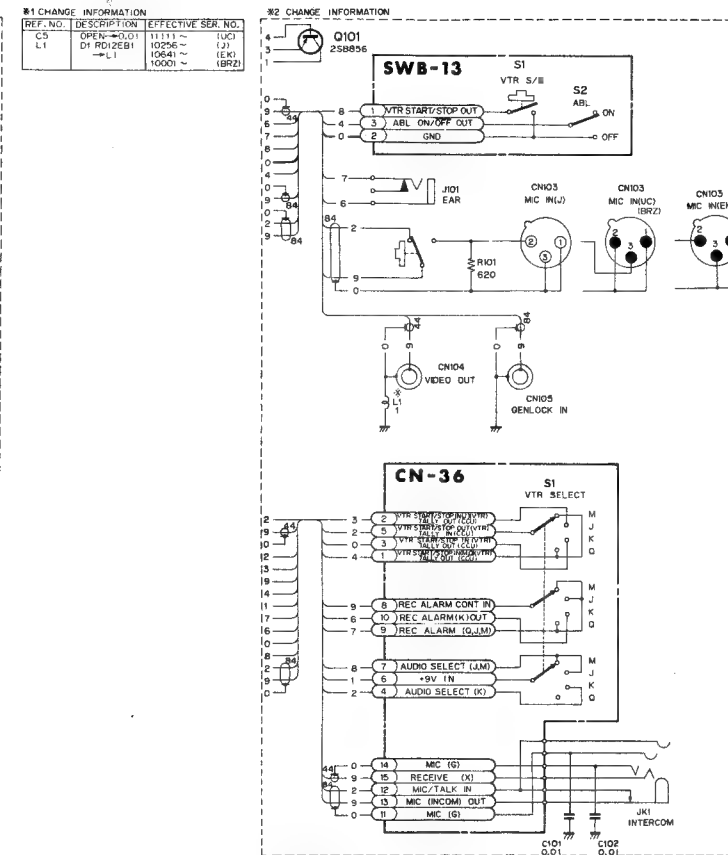
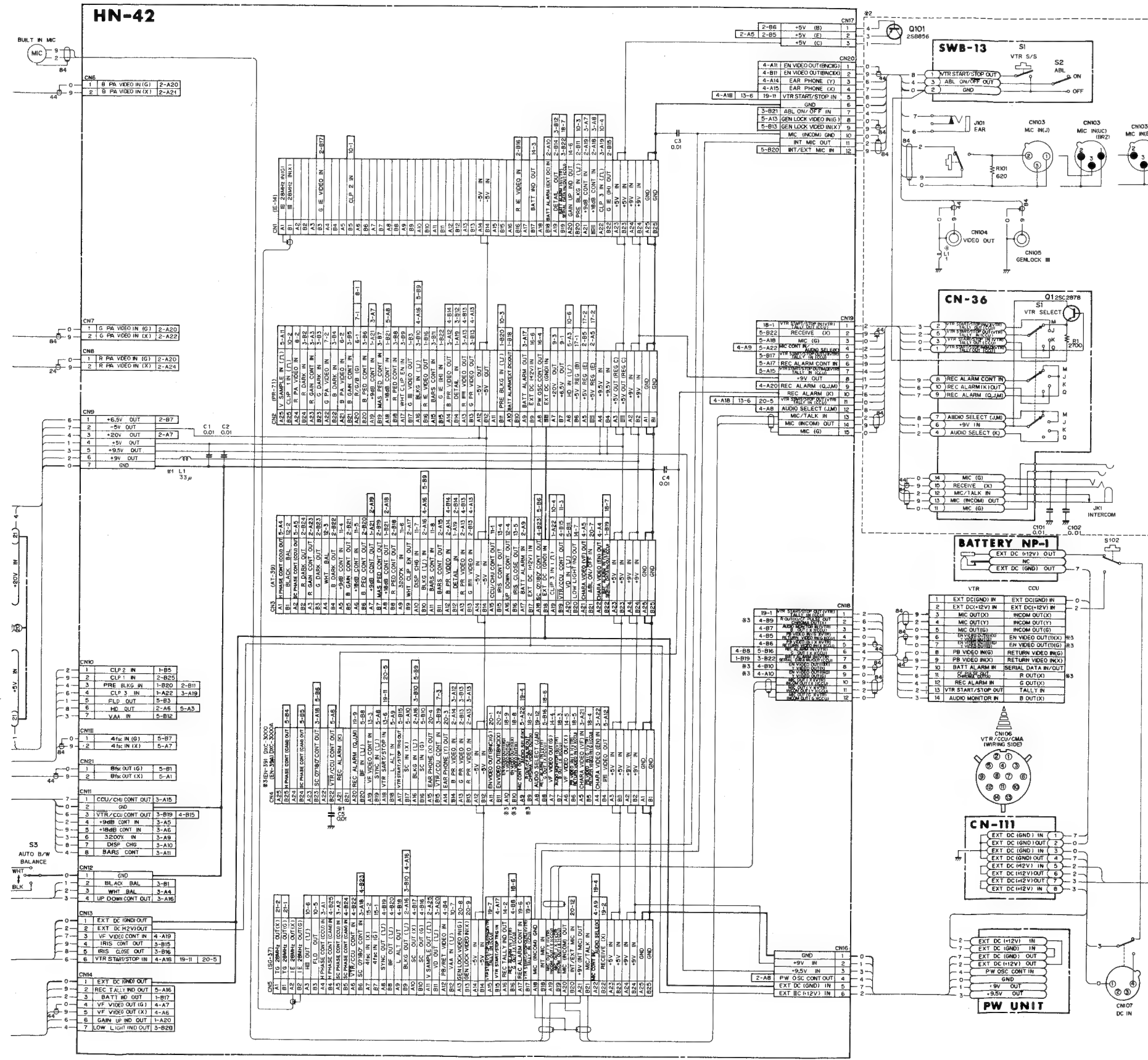
**CN-36 BOARD**

**CN-111 BOARD**

**HN-42 BOARD****SW-29 BOARD****SW-30 BOARD**

SWB-13 BOARD





DXC-3000 (J)	10001~11945
DXC-3000 (UC)	10001~13840
DXC-3000P (EK)	10001~14835
DXC-3000PMBR	10001~10100

CONNECTOR NO.	DXC-3000	DXC-3000A
4-A10,18-9,106-6	EN VIDEO OUT (I) (IG)	EN VIDEO OUT (I) (IG) Y VIDEO OUT (IG)
4-B10,18-8,106-7	EN VIDEO OUT (I) (IX)	EN VIDEO OUT (I) (IX) Y VIDEO OUT (IX)
4-B 9,18-2,106-11	CF PULSE OUT (VCR) R OUT (X)	R OUT/CF PULSE OUT CHROMA VIDEO OUT

**FRAME**  
CN-36  
CN-111  
HN-42  
SW-29  
SW-30  
SWB-13

DXC-3000 (J)  
DXC-3000 (UC)  
DXC-3000P (EK)  
DXC-3000PM (BR)  
DXC-3000A (J)  
DXC-3000A (UC)  
DXC-3000AP (EK)

## SECTION 5

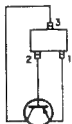
### SEMICONDUCTOR PIN ASSIGNMENT

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

TYPE	PAGE	TYPE	PAGE	TYPE	PAGE
1S2348H.....	5-2	HD44860B42.....	5-10	uA711CN.....	5-13
1S2835.....	5-2	HZ3ALL.....	5-2	uA733CN.....	5-13
1S2837.....	5-2	HZ5BLL.....	5-2	uPC311C.....	5-14
1S955.....	5-2	MC14557BCP.....	5-10	uPC358C.....	5-14
1SS123.....	5-2	MMH0026CP1.....	5-10	uPC4558C.....	5-14
2SA1226.....	5-2	MN1237AD.....	5-11		
2SA812.....	5-2				
2SB811.....	5-2	NJM1496M.....	5-11		
2SC1623.....	5-2	NJM2043D-D.....	5-11		
2SC2757.....	5-2	NJM2903D.....	5-11		
2SC2878.....	5-2	NJM2903M.....	5-11		
2SD774.....	5-2	RD2.7E.....	5-2		
2SD1020.....	5-2	RD4.3EB.....	5-2		
2SJ44.....	5-2	RD5.1MB2.....	5-2		
2SK94.....	5-2	RD5.6MB2.....	5-2		
2SK152.....	5-2	RD6.2MB2.....	5-2		
3SK163.....	5-2	RD6.8EB.....	5-2		
		RD12EB1.....	5-2		
		RD12MB1.....	5-2		
		SN74LS123N.....	5-11		
		SN74LS221N.....	5-11		
AN6041.....	5-3	TA78L012AP.....	5-12		
BX1337.....	5-3	TC4001BP.....	5-12		
BX1340.....	5-3	TC4051BP.....	5-12		
BX1348.....	5-3	TC4053BF.....	5-12		
BX1349.....	5-3	TC4053BP.....	5-12		
BX1350.....	5-3	TC4069UBP.....	5-12		
BX1351.....	5-4	TC40H000P.....	5-12		
		TC40H008F.....	5-12		
CX20011.....	5-4	TC40H076AP.....	5-13		
CX20180.....	5-4	TC74HC08F.....	5-13		
CX22017.....	5-4	TC74HC14F.....	5-13		
CX23047B.....	5-5				
CX518.....	5-7	TL062CP.....	5-13		
CX7930A.....	5-8	TL062CPS.....	5-13		
CX815.....	5-9	TL064CN.....	5-13		
		TL082CP.....	5-13		
ERAB1-004.....	5-2				

TOP VIEW (SCALE 4/1)

2SAB12



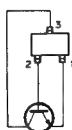
TYPE NO.  
PRINTED

2SB811



TOP VIEW (SCALE 4/1)

2SC1623  
2SC2757



2SC2878



2SD774

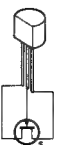


TYPE NO.  
PRINTED

2SD1020

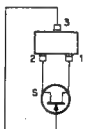


2SJ44

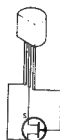


TOP VIEW (SCALE 4/1)

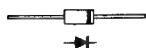
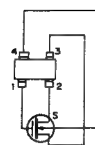
2SK94



2SK152



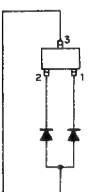
3SK163



1S2348H

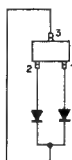
TOP VIEW (SCALE 4/1)

1S2835



TOP VIEW (SCALE 4/1)

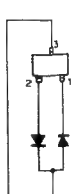
1S2837



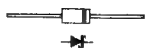
1S955

TOP VIEW (SCALE 4/1)

1SS123



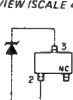
HZ 7 7LL  
RD 7 7E  
RD 7 7EB



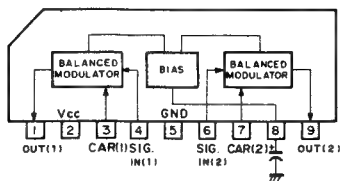
ERA81-004

TOP VIEW (SCALE 4/1)

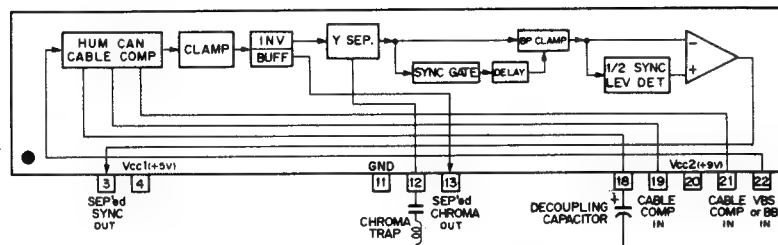
RD 7 7MB



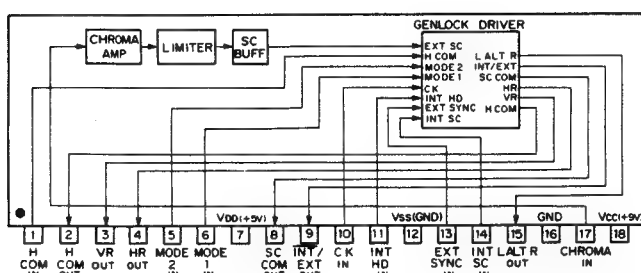
AN6041 (PANASONIC)  
DUAL-BALANCED MODULATOR  
— SIDE VIEW —



BX1337 (SONY)  
SYNC SEPARATOR  
— REAR VIEW —



BX1340 (SONY)  
SC LIMITER AND GENLOCK DRIVER  
— REAR VIEW —

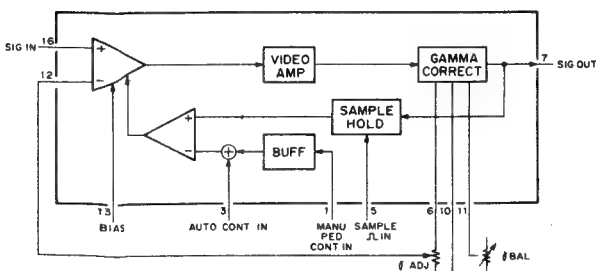
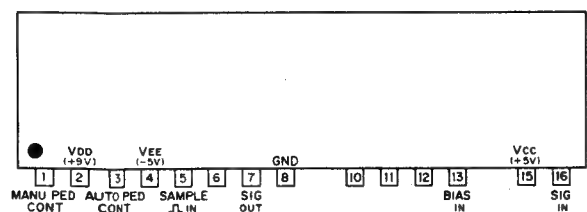


MODE SELECTION

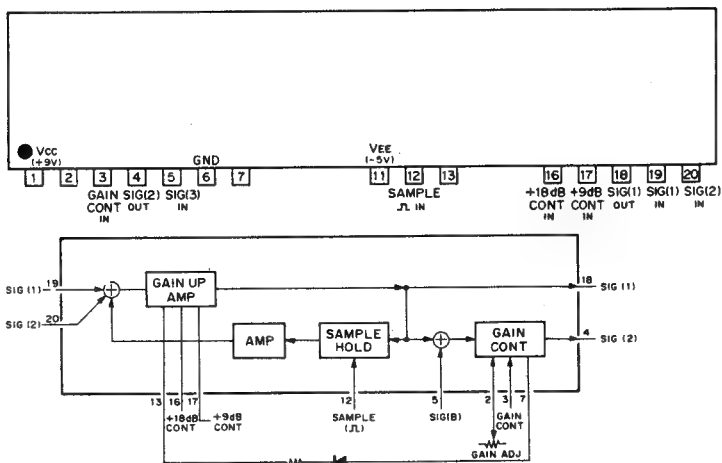
MODE	1	MODE	2	MODE
1	1	1	NTSC	
0	0	0	PAL	

0: LOW LEVEL  
1: HIGH LEVEL

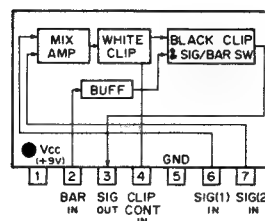
BX1348 (SONY)  
PEDESTAL SET AND GAMMA CORRECT  
— PRINTED SIDE VIEW —



BX1349 (SONY)  
VIDEO AMPLIFIER  
— PRINTED SIDE VIEW —

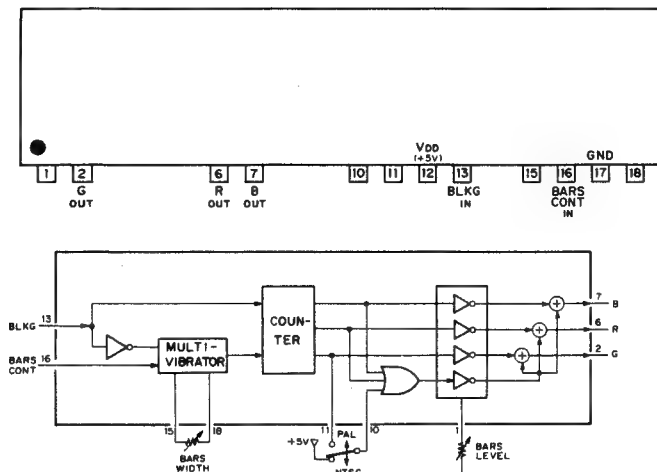


BX1350 (SONY)  
MIX AMP, WHITE CLIP AND BLACK CLIP AMPLIFIER  
— PRINTED SIDE VIEW —

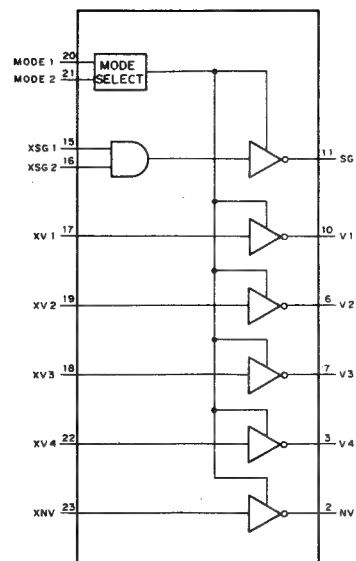
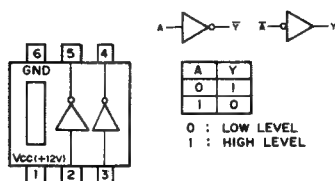




**BX1351 (SONY)**  
COLOR BAR GENERATOR  
— PRINTED SIDE VIEW —



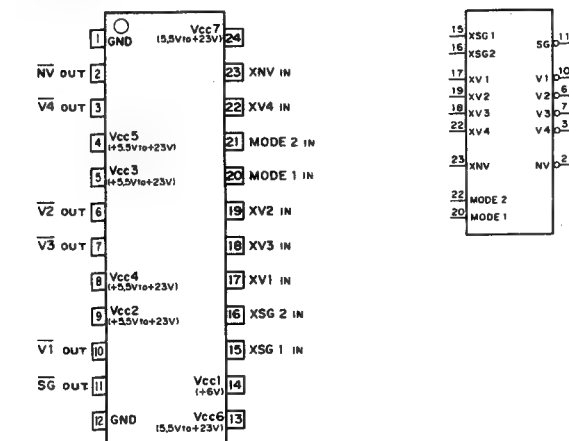
**CX20011 (SONY)**  
HIGH SPEED INVERTING DRIVER  
(C-MOS AND TTL COMPATIBLE)  
— TOP VIEW —



MODE SELECTION

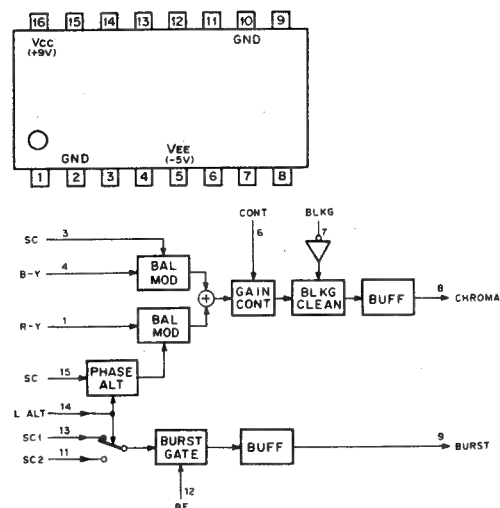
1	2	MODE
1	1	POWER SAVE
1	0	NORMAL
0	1	
0	0	

**CX20180 (SONY)**  
INVERTING DRIVER FOR CCD CLOCK WITH POWER SAVE  
— TOP VIEW —

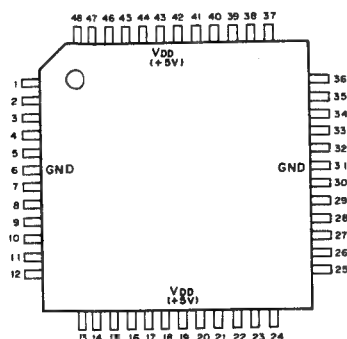


XV1-XV4; VERTICAL REGISTER TRANSMISSION CLOCK INPUT  
V1-V4; VERTICAL REGISTER TRANSMISSION CLOCK INPUT  
XSG1, XSG2; SENSER GATE PULSE INPUT  
SG; SENSER GATE PULSE OUTPUT  
H BLKG; HORIZONTAL BLANKING PULSE INPUT  
XNV; DRIVER INPUT  
NV; DRIVER OUTPUT  
VAA; VERTICAL PREBLANKING PULSE INPUT

**CX22017 (SONY)**  
VIDEO SIGNAL PROCESSOR  
— TOP VIEW —

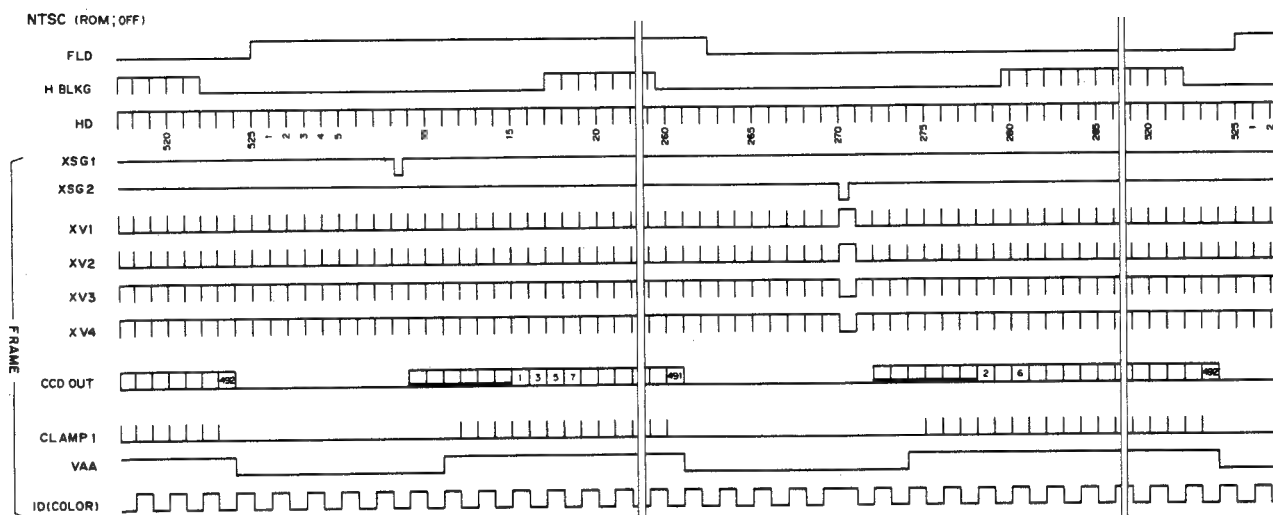
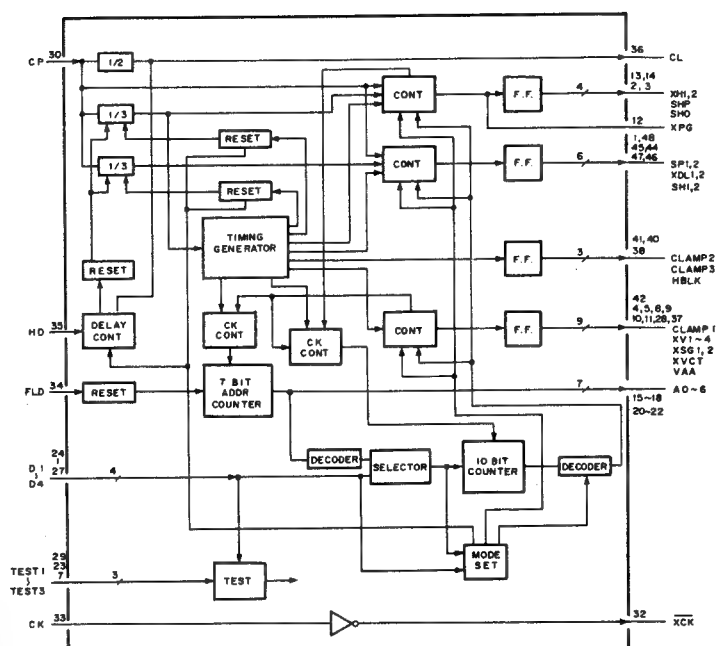
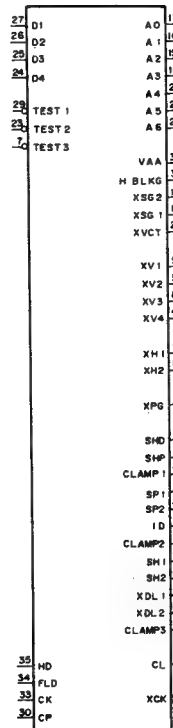


CX23047B (SONY) FLAT PACKAGE  
C-MOS TIMING PULSE GENERATOR WITH CX7930 FOR CCD CAMERA  
— TOP VIEW —

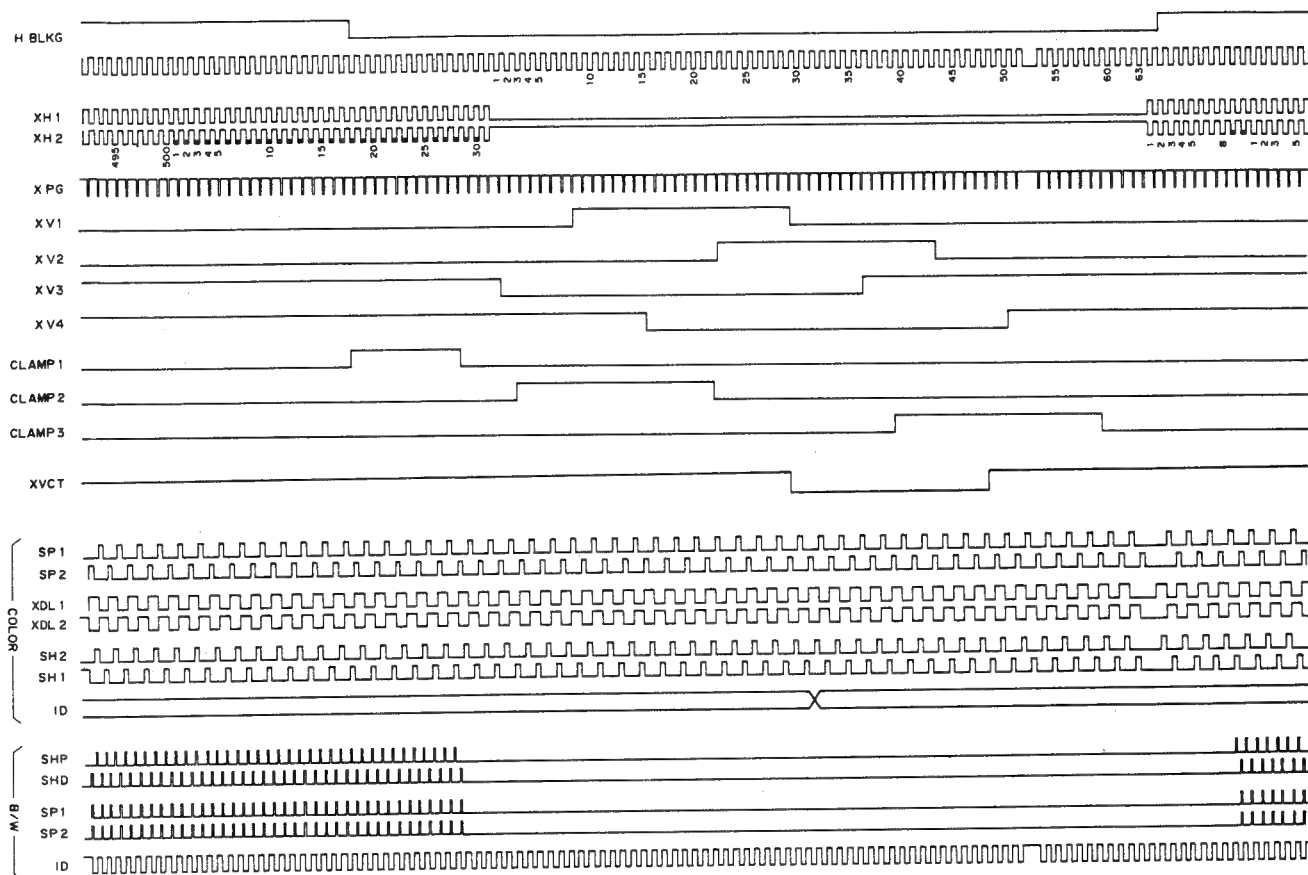


D1 - D4 ; EXTERNAL ROM DATA INPUT  
A0 - A6 ; EXTERNAL ROM ADDRESS INPUT

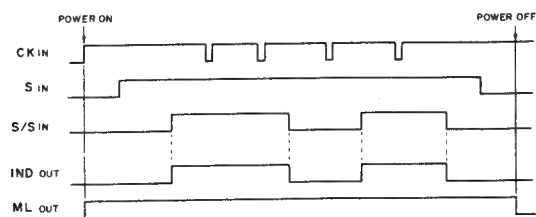
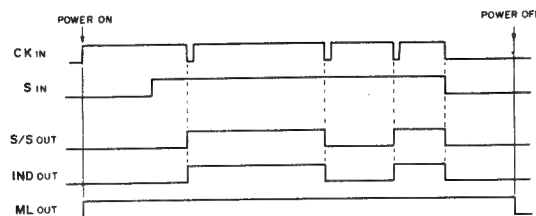
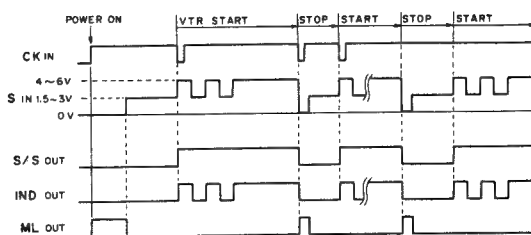
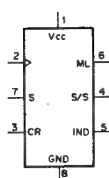
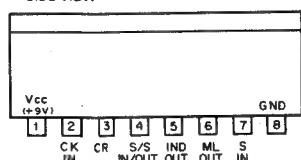
MODE SELECTION WITHOUT ROM					
DATA INPUT				MODE	
D1	D2	D3	D4		
GND	GND	Vcc	GND	B/W	CCIR
GND	GND	Vcc	Vcc		NTSC
GND	Vcc	Vcc	GND	COLOR	CCIR
GND	Vcc	Vcc	Vcc		NTSC



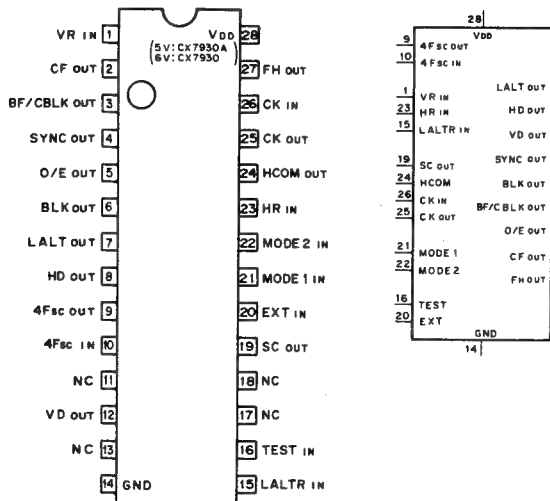




CX518 (SONY)  
INTERFACE CIRCUIT BETWEEN VTR AND CAMERA  
— SIDE VIEW —



CX7930A (SONY) FLAT PACKAGE  
C-MOS SYNC GENERATOR (NTSC, PAL-M, PAL, SECAM)  
— TOP VIEW —



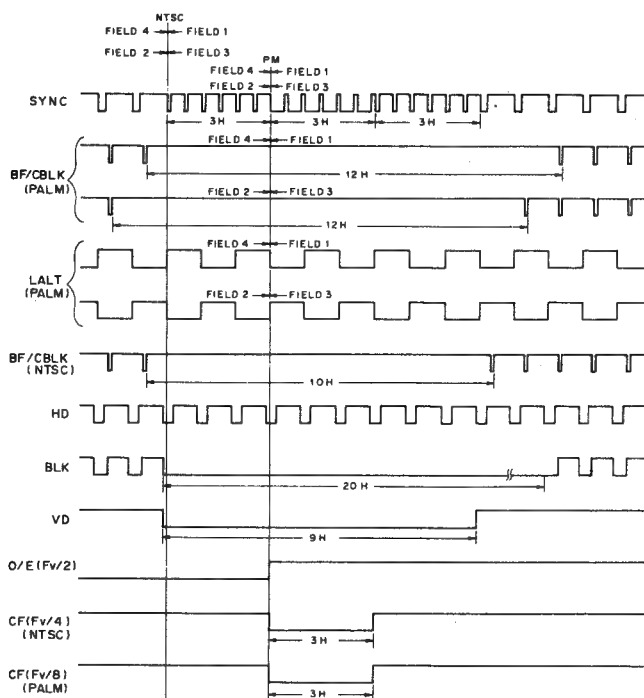
O/E : ODD/EVEN FIELD  
CF : COLOR FRAME PULSE  
HCOM : H COMPARATOR

SYSTEM	4Fsc	CLOCK	MODE1	MODE2	SYSTEM	INPUTS	EXT	TEST	FUNCTION
NTSC	910 F <sub>H</sub>	910 F <sub>H</sub>	0	0	NTSC	0	0	INTERNAL	
PAL	1135 F <sub>H</sub> + 2 F <sub>v</sub>	908 F <sub>H</sub>	0	1	SECAM	0	1	INVALID	
PALM	909 F <sub>H</sub>	910 F <sub>H</sub>	1	0	PALM	1	0	EXT	
SECAM		908 F <sub>H</sub>	1	1	PAL	1	1	TEST	

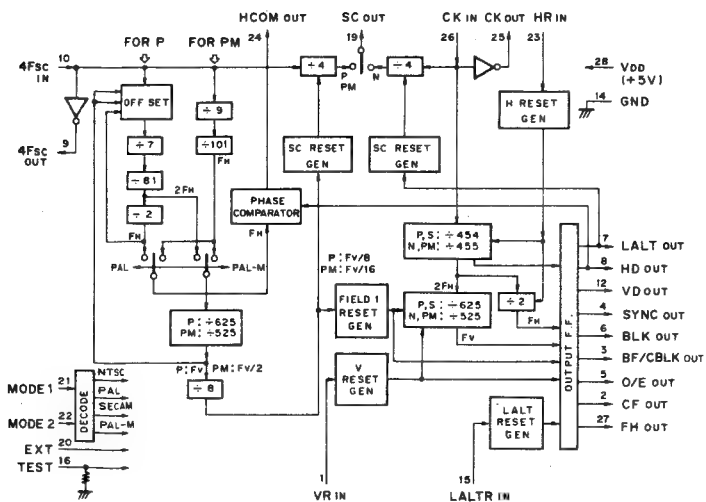
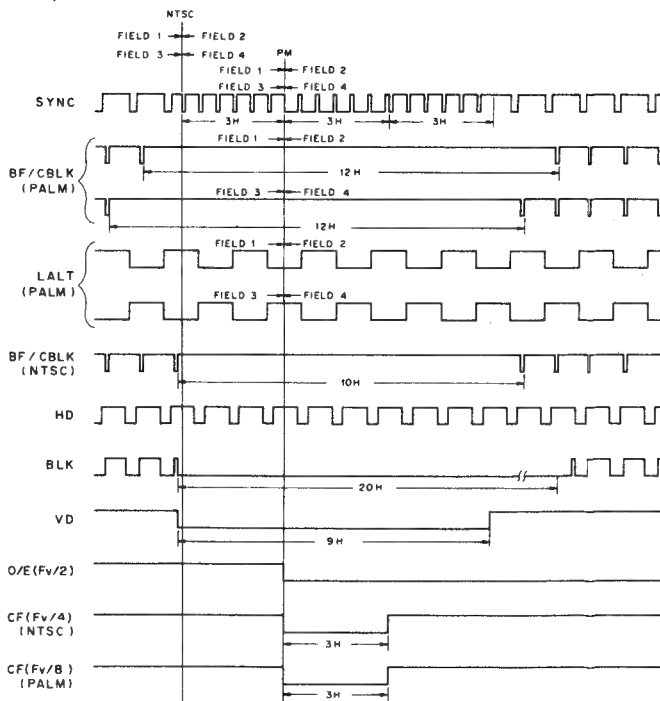
0 : LOW LEVEL (GND)  
1 : HIGH LEVEL (V<sub>DD</sub>)

TEST "0" : OPEN  
(INTERNALLY  
PULLED DOWN)

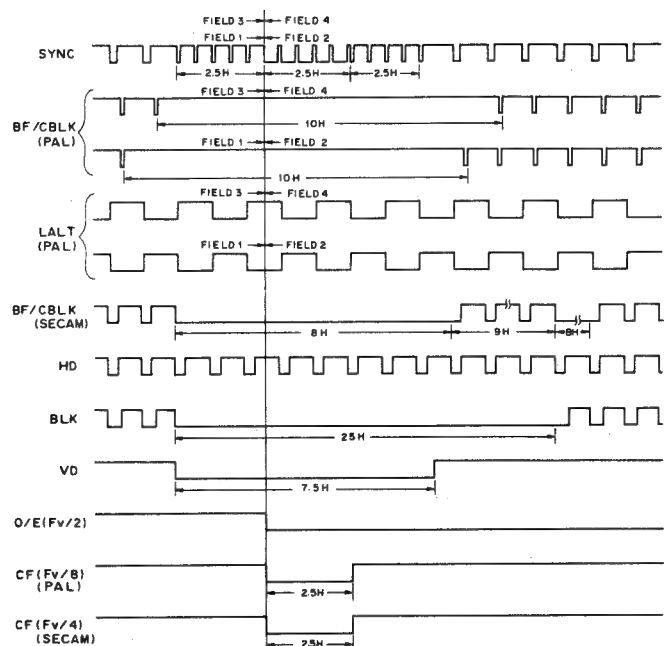
NTSC, PAL-M (FIELD 1, 3)



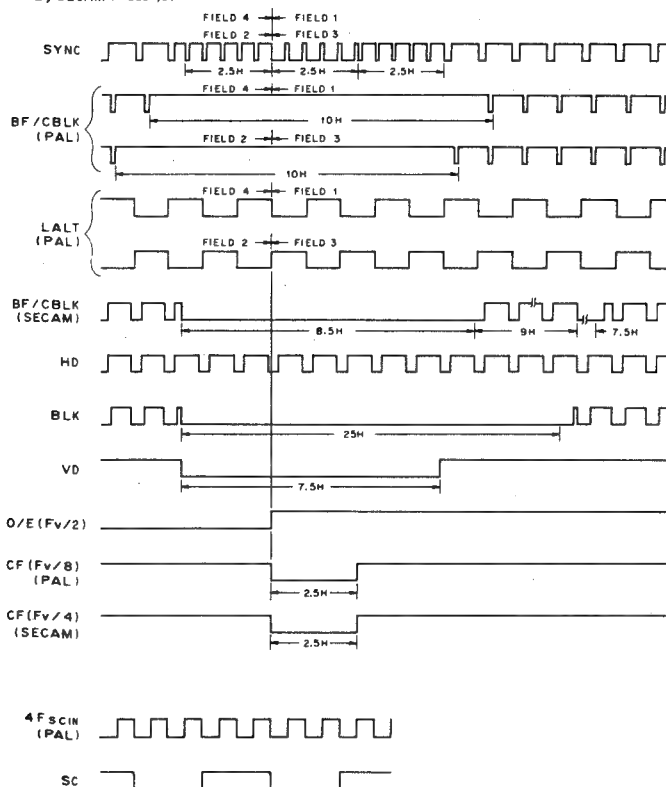
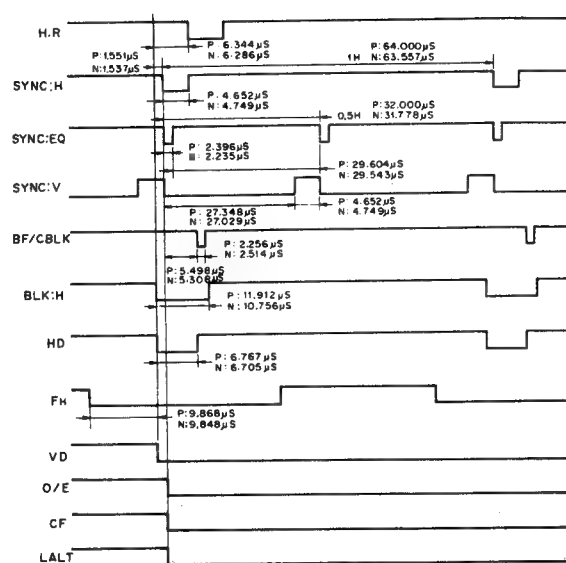
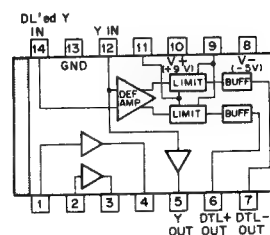
NTSC, PAL-M (FIELD 2, 4)



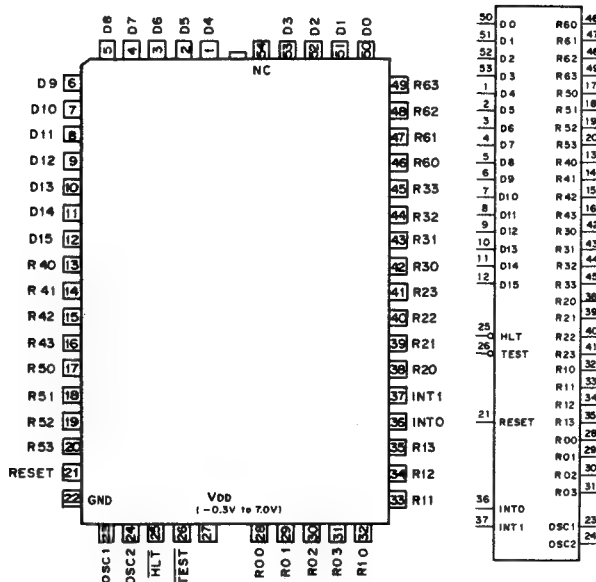
PAL, SECAM (FIELD 4, 2)



PAL, SECAM (FIELD 1, 3)

P: PAL, SECAM  
N: NTSC, PALMCX815 (SONY)  
DTL AMPLIFIER  
— TOP VIEW —

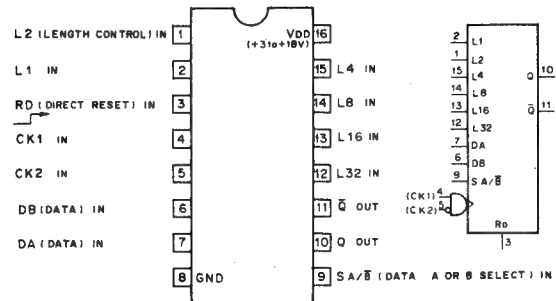
HD44860B42 (HITACHI) FLAT PACKAGE  
C-MOS 4-BIT MICROPROCESSOR  
— TOP VIEW —



D0-D15 : DATA INPUT/OUTPUT  
R00-R03;  
R10-R13;  
R20-R23;  
R30-R33;  
R40-R43;  
R50-R53;  
R60-R63; REGIST OUTPUT

RESET : RESET INPUT  
OSC1, OSC2 : OSCILLATOR INPUT  
INT0, INT1 : INTERRUPT INPUT  
TEST : TEST INPUT  
HLT : HALT INPUT

MC14557BCP (MOTOROLA)  
C-MOS 1-TO-64-BIT VARIABLE LENGTH SHIFT REGISTER  
— TOP VIEW —



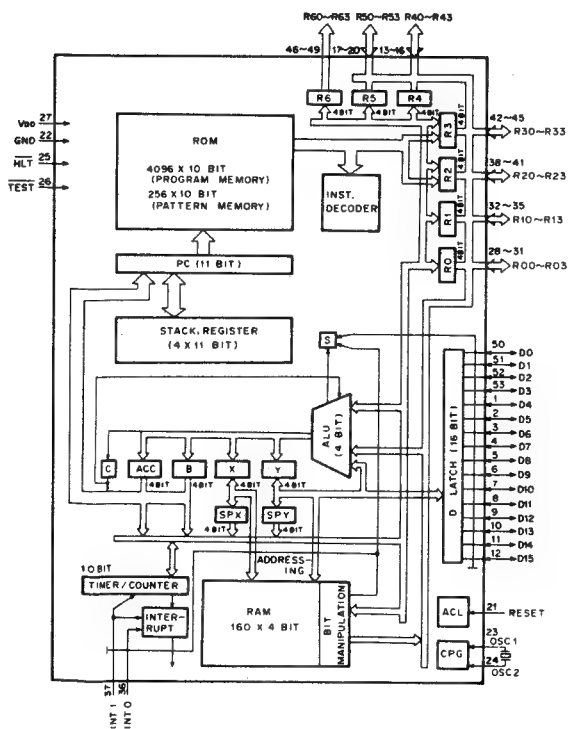
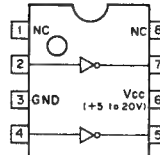
LENGTH SELECT TRUTH TABLE

L32	L16	L8	L4	L2	L1	REGISTER LENGTH
0	0	0	0	0	0	1-BIT
0	0	0	0	0	1	2-BIT
0	0	0	0	1	0	3-BIT
0	0	0	0	1	1	4-BIT
0	0	0	1	0	0	5-BIT
1	1	1	1	0	0	61-BIT
1	1	1	1	0	1	62-BIT
1	1	1	1	1	0	63-BIT
1	1	1	1	1	1	64-BIT

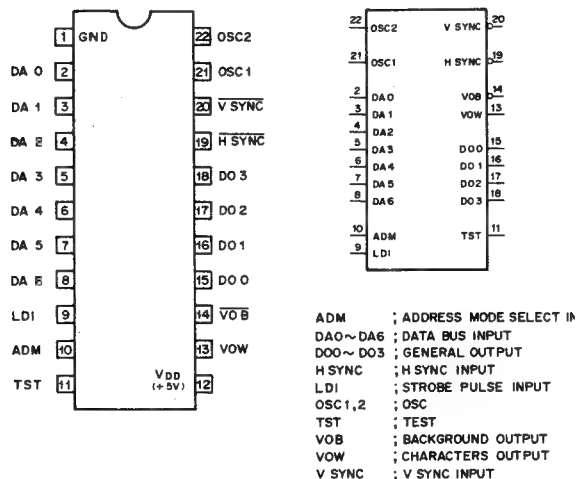
INPUTS			OUTPUT
RD	SA/B	CK2	Q
0	0	0	DB
0	1	0	DA
0	0	1	DB
0	1	1	DA
1	X	X	Q

0: LOW LEVEL  
1: HIGH LEVEL  
X: DON'T CARE

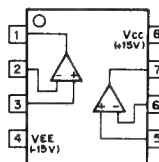
MMH0026CP1 (MOTOROLA)  
BIPOLAR MOS CLOCK DRIVER  
— TOP VIEW —



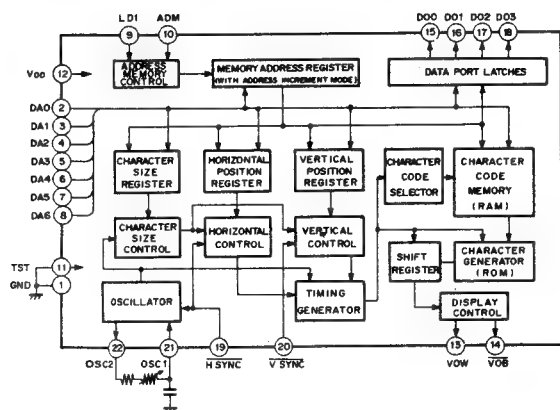
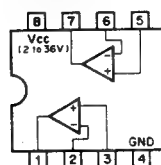
MN1237AD (MATSUSHITA)  
C-MOS INDICATES DATA OF 60 CHARACTERS CRT INTERFACE  
— TOP VIEW —



NJM2043D-D (JRC)  
OPERATIONAL AMPLIFIER  
— TOP VIEW —

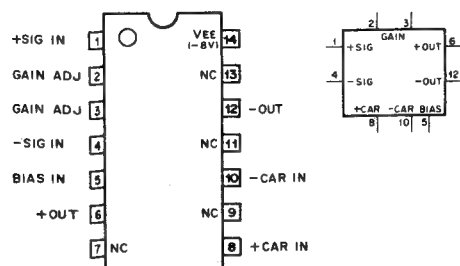


NJM2903D (JRC)  
NJM2903M (JRC) FLAT PACKAGE  
VOLTAGE COMPARATOR  
— TOP VIEW —

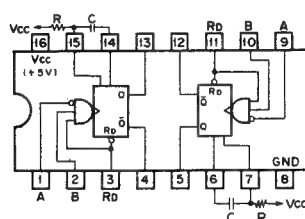


A B C D E F G H I J  
K L M N O P Q R S T  
U V W X Y Z  
0 1 2 3 4 5 6 7 8 9  
. : - ? / [ ]

NJM1496M (JRC) FLAT PACKAGE  
BALANCED MODULATOR/DEMODULATOR  
— TOP VIEW —



SN74LS123N (TI)  
TTL RETRIGGERABLE MONOSTABLE MULTIVIBRATOR WITH DIRECT RESET  
— TOP VIEW —



INPUTS		OUTPUTS	
Rd	A B Q Q		
0	X X 0 1		
X	1 X 0 1		
X	X 0 0 1		
1	0 1 1 1		
1	1 1 1 1		
1	0 1 1 1		

OUTPUT PULSE WIDTH

$$t_{123} = 0.28 \left( 1 + \frac{200}{R} \right) CR$$

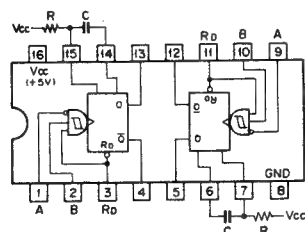
$$t_{123} = 0.33 \left( 1 + \frac{200}{R} \right) CR$$

$$t_{123} = 0.25 \left( 1 + \frac{200}{R} \right) CR$$

$$t_{123} = 0.29 \left( 1 + \frac{200}{R} \right) CR$$

$$t_{123} = 0.45 CR$$

SN74LS221N (TI)  
TTL MONOSTABLE MULTIVIBRATOR WITH SCHMITT TRIGGER INPUT  
— TOP VIEW —

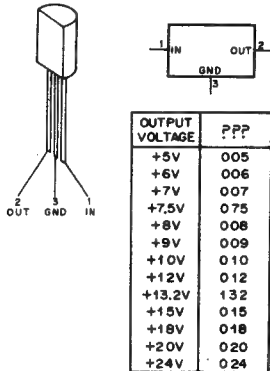


INPUTS		OUTPUTS	
Rd	A B Q Q		
0	X X 0 1		
X	1 X 0 1		
X	X 0 0 1		
1	0 1 1 1		
1	1 1 1 1		
1	0 1 1 1		

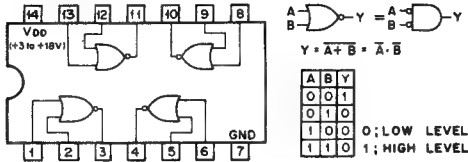
OUTPUT PULSE WIDTH = 0.7 CR



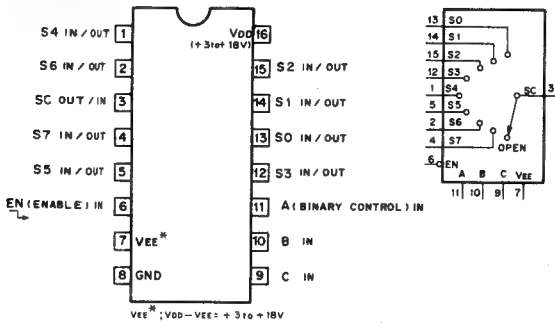
TA78L 77AP (TOSHIBA)  
POSITIVE VOLTAGE REGULATOR (150mA)



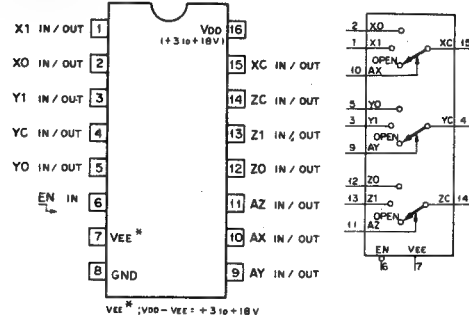
TC4001BP (TOSHIBA)  
C-MOS 2-INPUT NOR GATE  
— TOP VIEW —



TC4051BP (TOSHIBA)  
C-MOS 8-CHANNEL MULTIPLEXER/DEMULTIPLEXER  
— TOP VIEW —

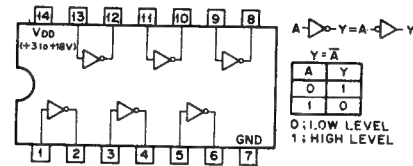


TC4053BF (TOSHIBA) FLAT PACKAGE  
TC4053BP (TOSHIBA)  
C-MOS 2-CHANNEL MULTIPLEXER/DEMULTIPLEXER  
— TOP VIEW —

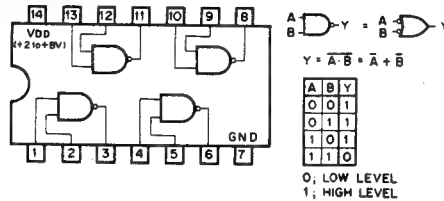


0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE.

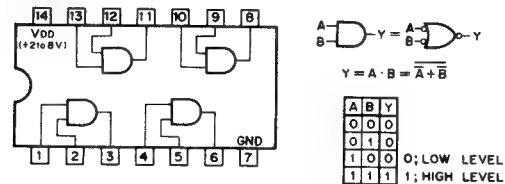
TC4069UBP (TOSHIBA)  
C-MOS INVERTER  
— TOP VIEW —



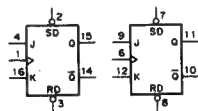
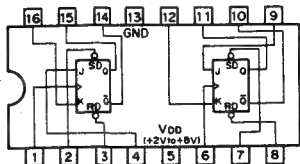
TC40H000P (TOSHIBA)  
C-MOS 2-INPUT NAND GATE  
— TOP VIEW —



TC40H008F (TOSHIBA) FLAT PACKAGE  
C-MOS 2-INPUT POSITIVE-AND GATE  
— TOP VIEW —



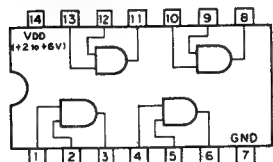
TC40H076AP (TOSHIBA)  
C-MOS HIGH SPEED EDGE TRIGGER TYPE J-K FLIP-FLOP WITH DIRECT SET/RESET  
— TOP VIEW —



INPUTS						OUTPUTS	
RD	SD	CK	J	K	Q	Q̄	
1	0	X	X	X	1	0	
0	1	X	X	X	0	1	
0	0	X	X	X	1	1	
1	1	—	0	0	NO CHANGE		
1	1	—	1	0	1	0	
1	1	—	0	1	0	1	
1	1	—	1	1	TOGGLE		
1	1	—	X	X	NO CHANGE		

0; LOW LEVEL  
1; HIGH LEVEL  
X; DON'T CARE

TC74HC08F (TOSHIBA) FLAT PACKAGE  
C-MOS 2-INPUT AND GATE  
— TOP VIEW —



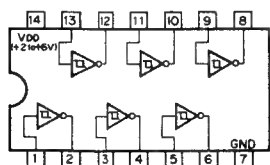
$$A \text{ AND } B \rightarrow Y = \frac{A \cdot B}{B}$$

$$Y = A \cdot B = \overline{A + B}$$

A	B	Y
0	0	0
0	1	0
1	0	0
1	1	1

0; LOW LEVEL  
1; HIGH LEVEL

TC74HC14F (TOSHIBA) FLAT PACKAGE  
C-MOS SCHMITT TRIGGER INVERTER  
— TOP VIEW —



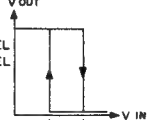
$$A \rightarrow \text{Inverter} \rightarrow Y = \overline{A}$$

$$Y = \overline{A}$$

$$V_{IN} \rightarrow \text{Inverter} \rightarrow V_{OUT}$$

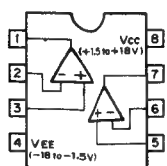
A	Y
0	1
1	0

0; LOW LEVEL  
1; HIGH LEVEL

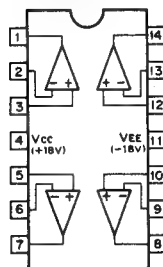


VDD	VIL	VIH
2.0V	0.75V	1.25V
4.5V	1.9V	2.7V
6.0V	2.6V	3.6V

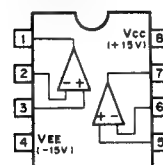
TL062CP (TI)  
TL062CPS (TI) FLAT PACKAGE  
OPERATIONAL AMPLIFIER  
(JFET INPUT)  
— TOP VIEW —



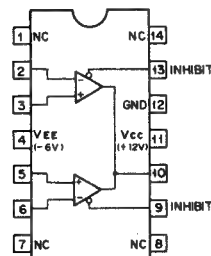
TL064CN (TI)  
OPERATIONAL AMPLIFIER  
(J FET-INPUT)  
— TOP VIEW —



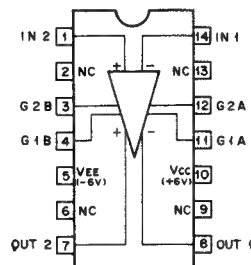
TL082CP (TI)  
OPERATIONAL AMPLIFIER  
(J FET-INPUT)  
— TOP VIEW —



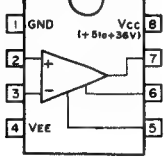
uA711CN (TI)  
VOLTAGE COMPARATOR  
— TOP VIEW —



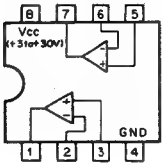
uA733CN (TI)  
DIFFERENTIAL VIDEO AMP  
— TOP VIEW —



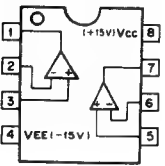
uPC311C (NEC)  
VOLTAGE COMPARATOR  
— TOP VIEW —



uPC358C (NEC)  
DUAL OPERATIONAL AMPLIFIERS  
— TOP VIEW —



uPC4558C (NEC)  
OPERATIONAL AMPLIFIER  
— TOP VIEW —



## SECTION 6 SPARE PARTS

## 第 6 章 备件

### 6-1. PARTS INFORMATION

#### 1. Safety Related Component Warning

Components identified by shading marked with  $\Delta$  on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."

- This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
- Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. **Printed Components in Bold-Face type** on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

#### 5. Abbreviation

REF. HO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
<b>C</b>	CAPACITOR	<b>IC</b>	IC	<b>RP</b>	RESISTOR BLOCK
<b>CN</b>	CONNECTOR	<b>J</b>	JACK	<b>RV</b>	VARIABLE RESISTOR
<b>CV</b>	VARIABLE CAPACITOR	<b>L</b>	INDUCTOR	<b>S</b>	SWITCH
<b>D</b>	DIODE	<b>LV</b>	VARIABLE INDUCTOR	<b>T</b>	TRANSFORMER
<b>DL</b>	DELAY LINE	<b>Q</b>	TRANSISTOR	<b>TH</b>	THERMISTOR
<b>FL</b>	FILTER	<b>R</b>	RESISTOR	<b>X</b>	OSCILLATOR

### 6-1. 零部件说明

#### 1. 有关组件的注意事项

在设计图上以黑点和 $\Delta$ 标记来表示组件，零部件的分解配列图以及电子备件表均是按照在正常使用条件下而设定的。请参考本册或其它Sony公司发行的维修手册上注明的备件号码交换组件。

2. 由SONY公司备件中心提供的替换零部件，其形状和外表有时会 and 已使用的不同，这是因为“零部件的改良或设计更改”，和“零部件标准化”之缘故。

- 本册所记载的零部件分解配列图以及电子零部件表内包括“现已使用的标准零部件”之号码。
- 有关在技术方面的零部件技术改良，请参照SONY公司的维修手册或资料。

3. 在零部件分解配列图以及电子零部件表里用粗文字表示的组件是意味着有库存，由细文字表示的其他零部件则由于在日常维修中，交换率较少故交货期延长。


4. 没有记载号码和名称的零部件则意味着交换率极低并无库存。


# SCREW


DXC-3000/P/PM  
DXC-3000A/AP


## SCREW


### 螺钉


PRECISION +P Cr-N	
	
7-627-000-00	
SIZE	Parts No.
1.7 x 1.6	—
x 1.8	—
x 2	552-27
x 2.2	552-87
x 2.5	552-07
x 2.8	—
x 3	552-37
x 3.5	—
x 4	552-47
x 4.5	552-67
x 5	552-57
x 5.5	557-07
x 6	552-77
2 x 1.8	554-37
x 2	553-17
x 2.2	554-07
x 2.5	553-27
x 2.8	—
x 3	553-37
x 3.5	554-17
x 4	553-47
x 4.5	553-57
x 5	553-67
x 5.5	—
x 6	554-27
x 7	553-87
x 8	553-97
x 10	553-77
2.6 x 2.8	556-07
x 3	—
x 3.5	—
x 4	556-37
x 4.5	—
x 5	556-57
x 5.5	—
x 6	556-77
x 7	—
x 8	556-97
x 9	—
x 10	557-47


PRECISION +K Bzn-N	
	
7-627-000-00	
SIZE	Parts No.
1.7 x 1.8	—
x 2	450-28
x 2.2	—
x 2.5	450-48
x 2.8	—
x 3	450-58
x 3.5	—
x 4	450-78
x 4.5	—
x 5	450-98
x 5.5	—
x 6	—
2 x 2	452-08
x 2.2	452-88
x 2.5	452-48
x 2.8	—
x 3	452-18
x 3.5	452-98
x 4	452-28
x 4.5	—
x 5	452-38
x 5.5	—
x 6	452-58
x 7	452-68
x 8	452-78
2.6 x 3.5	—
x 4	—
x 4.5	454-28
x 5	454-38
x 5.5	—
x 6	—
x 7	—
x 8	—


+B Bzn-N	
	
7-682-000-00	
SIZE	Parts No.
3 x 3	544-09
x 4	545-09
x 5	546-09
x 6	547-09
x 8	548-09
x 10	549-09
x 12	550-09
x 14	551-09
x 16	552-09
x 20	553-09
4 x 4	558-09
x 5	559-09
x 6	560-09
x 8	561-09
x 10	562-09
x 12	563-09
x 14	564-09
x 16	565-09
x 20	566-09


+B Cr-N	
	
7-682-000-00	
SIZE	Parts No.
3 x 3	544-04
x 4	545-04
x 5	546-04
x 6	547-04
x 8	548-04
x 10	549-04
x 12	550-04
x 14	551-04
x 16	552-04
x 20	553-04
4 x 4	558-04
x 5	559-04
x 6	560-04
x 8	561-04
x 10	562-04
x 12	563-04
x 14	564-04
x 16	565-04
x 20	566-04


+K Bzn-N	
	
7-682-000-00	
SIZE	Parts No.
3 x 4	245-09
x 5	246-09
x 6	247-09
x 8	248-09
x 10	249-09
x 12	250-09
x 14	251-09
x 16	252-09
x 20	253-09
4 x 6	260-09
x 8	261-09
x 10	262-09
x 12	263-09
x 14	264-09
x 16	265-09
x 20	266-09
5 x 8	274-09
x 10	275-09
x 12	276-09
x 14	277-09
x 16	278-09
x 20	279-09
x 25	280-09
x 30	281-09
x 35	282-09
x 40	283-09
x 45	284-09
x 50	285-09


+K Cr-N	
	
7-682-000-00	
SIZE	Parts No.
3 x 4	245-04
x 5	246-04
x 6	247-04
x 8	248-04
x 10	249-04
x 12	250-04
x 14	251-04
x 16	252-04
x 20	253-04
4 x 6	260-04
x 8	261-04
x 10	262-04
x 12	263-04
x 14	264-04
x 16	265-04
x 20	266-04

+P Bzn-N	
	
7-621-000-00	
SIZE	Parts No.
2 x 3	255-10
x 4	255-20
x 5	283-00
x 6	255-40
x 8	255-50
x 10	283-10
x 12	283-70
x 14	—
x 16	—
x 20	256-20
2.3 x 5	—
x 6	—
x 8	—
x 10	—
x 12	—
x 14	—
x 16	—
x 20	—
2.6 x 3	259-10
x 4	284-00
x 5	284-10
x 6	284-20
x 8	284-30
x 10	284-40
x 12	259-70
x 14	259-80
x 16	260-00
x 20	260-20

+PSW Czn-N	
	
7-682-000-00	
SIZE	Parts No.
3 x 6	947-01
x 8	948-01
x 10	949-01
x 12	950-01
x 14	951-01
x 16	952-01
x 20	953-01
x 25	954-01
x 30	955-01
x 35	956-01
x 40	957-01
4 x 8	961-01
x 10	962-01
x 12	963-01
x 14	964-01
x 16	965-01
x 20	966-01
x 25	967-01
x 30	968-01
x 35	969-01
x 40	970-01

+PSW Czn-N	
	
7-621-000-00	
SIZE	Parts No.
2.6 x 5	759-35
x 6	759-45
x 8	759-65
x 10	759-75
x 12	759-85
x 14	759-95
x 16	760-05
x 20	760-15
x 25	760-65

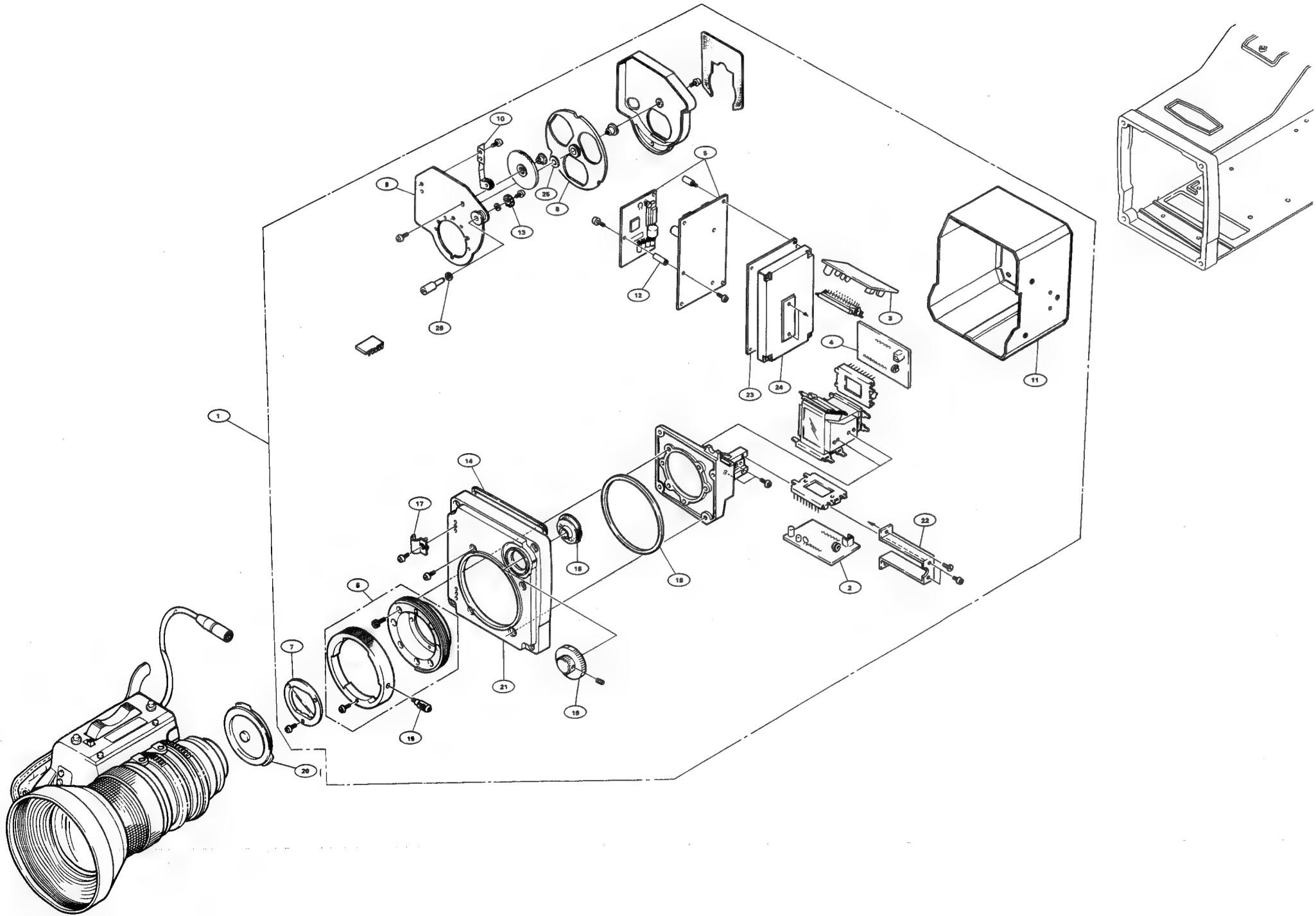
+RK Bzn-N	
	
7-621-000-00	
SIZE	Parts No.
2 x 3	—
x 4	—
x 5	—
x 6	—
x 8	—
x 10	—
x 12	661-30
x 14	661-40
2.6 x 4	—
x 5	662-10
x 6	662-20
x 8	662-30
x 10	—
x 12	—
x 14	—
x 16	—
x 20	—

TOTSU B Bzn-N	
	
7-621-000-00	
SIZE	Parts No.
2 x 3	911-00
x 4	911-10
x 6	911-30
x 8	911-40
2.6 x 3	912-00
x 4	912-10
x 5	912-20
x 6	912-30
x 8	912-40
x 10	912-50
x 12	912-60
x 14	912-70
x 16	912-80
x 20	912-90

6-2. EXPLODED VIEW

6-2. 零部件分解配列图

FRONT BLOCK

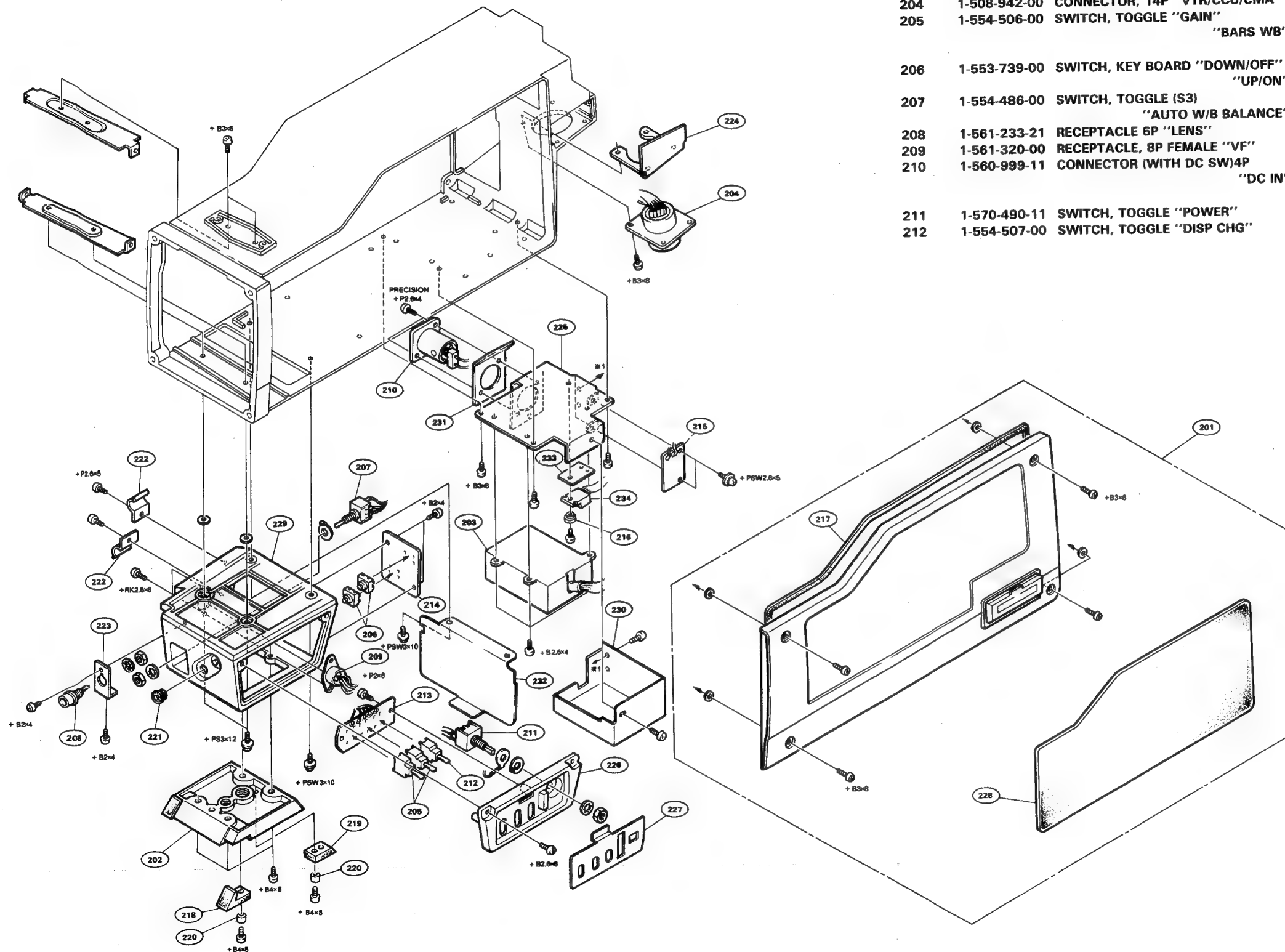


No.	Part No.	Description
1	<b>A-7575-089-A</b>	<b>FRONT UNIT ASSY(N)</b>
	<b>A-7575-090-A</b>	<b>FRONT UNIT ASSY(P)</b>
2	A-7513-337-A	MOUNTED CIRCUIT BORAD "PA-40"(R)
3	A-7513-338-A	MOUNTED CIRCUIT BORAD "PA-40"(B)
4	A-7513-339-A	MOUNTED CIRCUIT BORAD "PA-41"
5	A-7513-335-A	MOUNTED CIRCUIT BORAD "TG-18N"
		Ser. No. 10001 ~ 10810 (DXC-3000)
	A-7513-335-B	MOUNTED CIRCUIT BORAD "TG-18N"
		Ser. No. 10811 and higher (DXC-3000)
		10001 and higher (DXC-3000PM)
		60001 and higher (DXC-3000A)
	A-7513-336-A	MOUNTED CIRCUIT BOARD "TG-18P"
		Ser. No. 10001 ~ 10440 (DXC-3000P)
	A-7513-336-B	MOUNTED CIRCUIT BOARD "TG-18P"
		Ser. No. 10441 and higher (DXC-3000P)
		80001 and higher (DXC-3000AP)
6	A-7550-031-A	MOUNT LENS
7	<b>1-547-198-11</b>	<b>UNIT, FILTER OPTICS</b>
8	1-547-196-11	DISK, FILTER
9	X-3699-001-1	PLATE ASSY, FILTER
10	X-3699-003-3	SPRING ASSY, LEAF
11	X-3699-009-2	COVER ASSY, SHIELD, BLOCK
12	3-699-005-01	SUPPORT, TG-18
13	3-672-208-00	GEAR, IDLER
14	3-672-253-11	RUBBER, CONDUCTIVE
15	<b>3-678-629-00</b>	<b>LEVER, MOUNT</b>
16	3-678-632-00	PACKING, KNOB
17	3-678-684-00	HOLDER, CABLE
18	3-699-027-01	RING, DUST PROTECTION
19	<b>3-699-047-01</b>	<b>KNOB, FILTER</b>
20	<b>3-699-048-01</b>	<b>CAP, MOUNT (SUPPLIED)</b>
21	3-699-050-01	PANEL, FRONT
22	3-699-072-01	BRACKET, TG
23	3-699-073-02	SHEET, INSULATING A
24	3-699-076-01	CASE, SHIELD A TG-18
25	<b>3-701-444-11</b>	<b>WASHER, 6</b>
26	<b>3-701-441-21</b>	<b>WASHER</b>

No.	Part No.	Description
101	A-7420-113-A	HANDLE ASSY
102	A-7420-118-A	PLATE (LEFT) ASSY, SIDE
<b>103</b>	<b>X-3699-004-2</b>	<b>PAD ASSY</b>
<b>104</b>	<b>X-3664-208-0</b>	<b>KNOB ASSY, FADE</b>
<b>105</b>	<b>1-507-682-00</b>	<b>JACK "EAR"</b>
<b>106</b>	<b>1-507-883-00</b>	<b>JACK, SMALL TYPE 4P (J1)</b>
<b>107</b>	<b>1-553-739-00</b>	<b>SWITCH KEY BOARD (S2)</b>
		<b>"VTR START"</b>
<b>108</b>	<b>1-561-781-21</b>	<b>BNC, RECEPTACLE "VIDEO OUT"</b>
		<b>"GENLOCK IN"</b>
<b>109</b>	<b>1-563-096-11</b>	<b>CONNECTOR(WITH SW)(F) 3P</b>
		<b>"MIC IN"(FOR UC, EK)</b>
	<b>1-506-596-11</b>	<b>CONNECTOR(WITH SW)(F) 3P</b>
		<b>"MIC IN"(FOR J)</b>
<b>110</b>	<b>1-570-491-11</b>	<b>SWITCH, ROTARY (S1)</b>

DXC-3000/P/PM (UC/EK/BR)  
DXC-3000A/AP (UC/EK)

## CHASSIS BLOCK 2

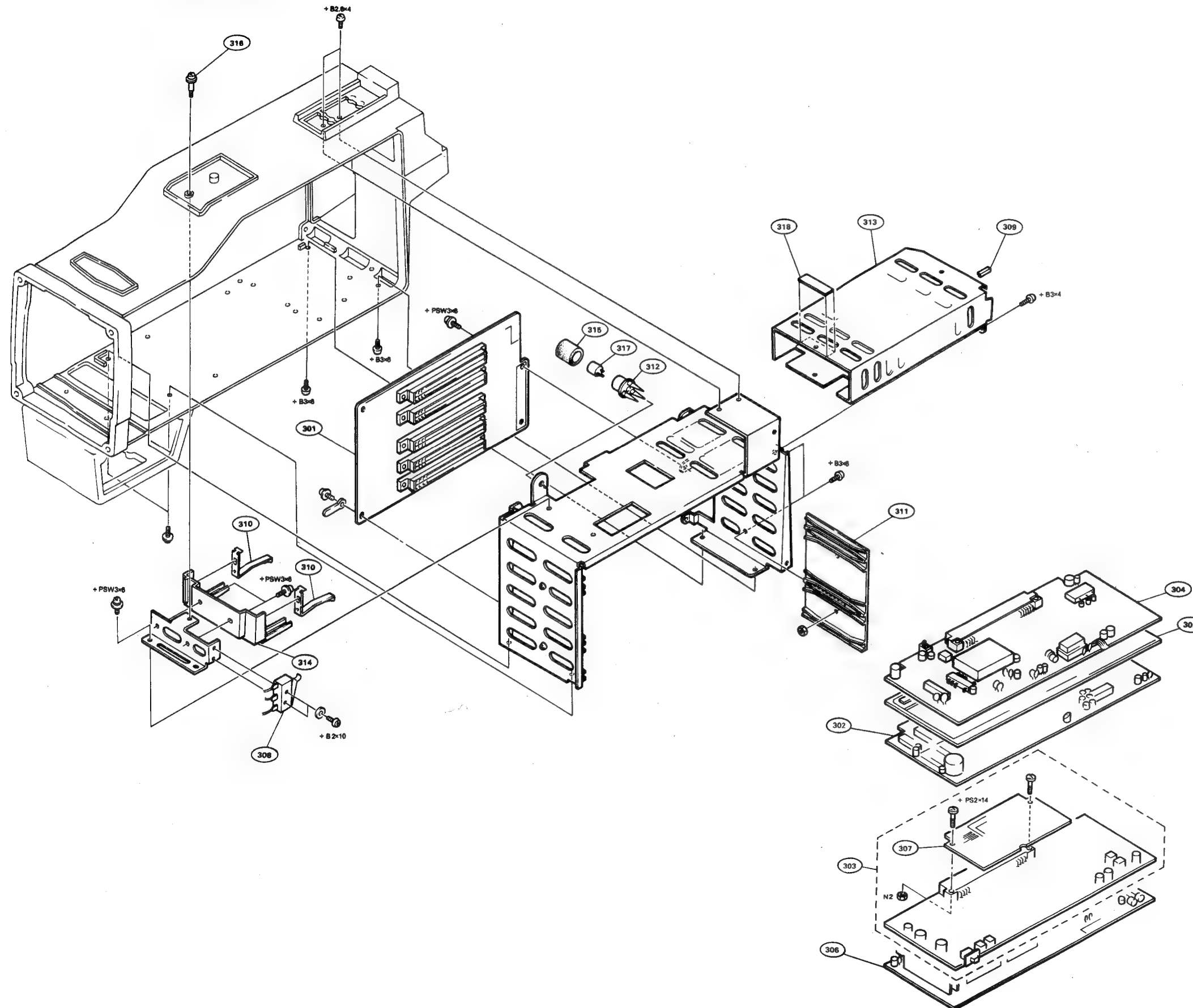


No.	Part No.	Description
201	A-7420-117-A	PLATE (RIGHT) ASSY, SIDE
202	X-3664-212-2	SHOE ASSY (B), T
203	1-413-163-21	POWER, UNIT
204	1-508-942-00	CONNECTOR, 14P "VTR/CCU/CMA"
205	1-554-506-00	SWITCH, TOGGLE "GAIN" "BARS WB"
206	1-553-739-00	SWITCH, KEY BOARD "DOWN/OFF" "UP/ON"
207	1-554-486-00	SWITCH, TOGGLE (S3) "AUTO W/B BALANCE"
208	1-561-233-21	RECEPTACLE 6P "LENS"
209	1-561-320-00	RECEPTACLE, 8P FEMALE "VF"
210	1-560-999-11	CONNECTOR (WITH DC SW)4P "DC IN"
211	1-570-490-11	SWITCH, TOGGLE "POWER"
212	1-554-507-00	SWITCH, TOGGLE "DISP CHG"

No.	Part No.	Description
213	1-617-357-11	PRINTED CIRCUIT BOARD "SW-29" Ser. No. 10001 ~ 15070 (DXC-3000) 10001 ~ 15965 (DXC-3000P) 10001 ~ 10100 (DXC-3000PM)
	1-617-357-12	PRINTED CIRCUIT BOARD "SW-29" Ser. No. 15071 ~ 15450 (DXC-3000) 15966 ~ 16485 (DXC-3000P)
	1-617-357-13	PRINTED CIRCUIT BOARD "SW-29" Ser. No. 15451 and higher (DXC-3000) 16486 and higher (DXC-3000P) 10101 and higher (DXC-3000PM) 60001 and higher (DXC-3000A) 80001 and higher (DXC-3000AP)
214	1-617-358-11	PRINTED CIRCUIT BOARD "SW-30"
215	1-617-361-11	PRINTED CIRCUIT BOARD "CN-111"
216	2-832-003-00	BUSH, INSULATING
217	3-672-253-11	RUBBER, CONDUCTIVE
218	3-675-963-02	FOOT, FRONT, RUBBER
219	3-675-964-01	FOOT, REAR, RUBBER
220	3-675-965-01	SPACER (2.6 x 2)
221	3-676-244-00	COVER, SWITCH
222	3-678-684-00	HOLDER, CABLE
223	3-699-007-01	BRACKET, LENS CN
224	3-699-009-01	NUT, PLATE, CCG
225	3-699-039-01	BRACKET, DC IN
226	3-699-040-02	ESCUTCHEON, CONTROL
227	3-699-041-01	LABEL, CONTROL BLOCK
228	3-699-046-01	PAD, SIDE
229	3-699-053-02	BOX, CONTROL
230	3-699-065-03	CASE, SHIELD, PW
231	3-699-066-01	LABEL, DC IN
232	3-699-071-01	PLATE, SHIELD, FR
233	3-703-207-11	INSULATOR, TO-220
234	8-729-315-63	TRANSISTOR 2SB856(Q101)



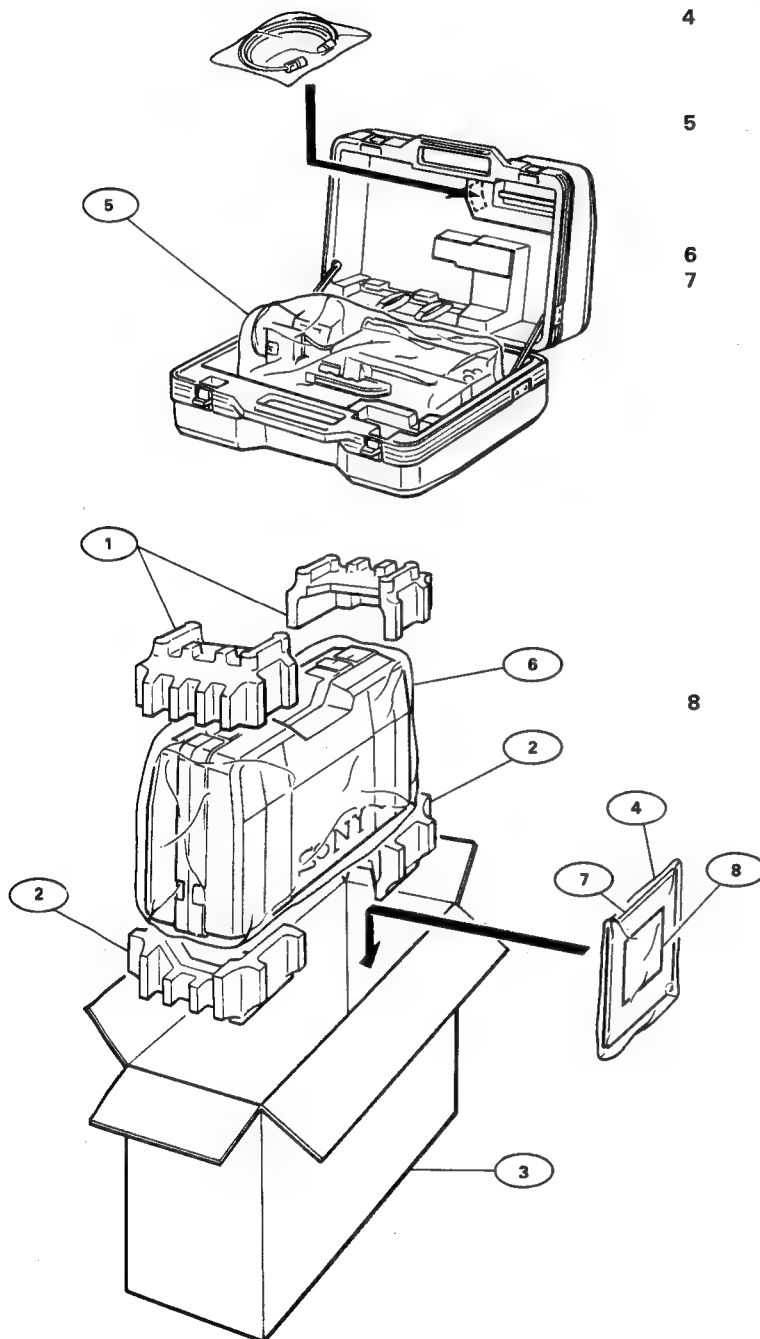
## BOARD AND SUB CHASSIS BLOCK



No.	Part No.	Description
301	A-7513-334-A	MOUNTED CIRCUIT BOARD "HN-42"
302	A-7513-340-C	MOUNTED CIRCUIT BOARD "AT-39"
303	A-7513-341-A	MOUNTED CIRCUIT BOARD "EN-39N" (DXC-3000)
	A-7513-342-A	MOUNTED CIRCUIT BOARD "EN-39P" (DXC-3000P)
	A-7513-461-A	MOUNTED CIRCUIT BOARD "EN-39PM" (DXC-3000PM)
	A-7513-661-A	MOUNTED CIRCUIT BOARD "EN-39AN" (DXC-3000A)
	A-7513-663-A	MOUNTED CIRCUIT BOARD "EN-39AP" (DXC-3000AP)
304	A-7513-343-A	MOUNTED CIRCUIT BOARD "IE-14N" (DXC-3000/PM/A/APM)
	A-7513-344-A	MOUNTED CIRCUIT BOARD "IE-14P" (DXC-3000P/AP)
305	A-7513-345-A	MOUNTED CIRCUIT BOARD "PR-71N" (DXC-3000/A)
	A-7513-346-A	MOUNTED CIRCUIT BOARD "PR-71N" (DXC-3000P/PM/AP/APM)
306	A-7513-347-A	MOUNTED CIRCUIT BOARD "SG-37N"
	A-7513-347-B	MOUNTED CIRCUIT BOARD "SG-37N"
		Ser. No. 10001 ~ 15450 (DXC-3000)
		Ser. No. 15451 and higher (DXC-3000)
		60001 and higher (DXC-3000A)
	A-7513-348-A	MOUNTED CIRCUIT BOARD "SG-37P"
	A-7513-348-B	MOUNTED CIRCUIT BOARD "SG-37P"
		Ser. No. 10001 ~ 16485 (DXC-3000P)
		Ser. No. 16486 and higher (DXC-3000P)
		80001 and higher (DXC-3000AP)
	A-7513-462-A	MOUNTED CIRCUIT BOARD "SG-37PM"
	A-7513-462-B	MOUNTED CIRCUIT BOARD "SG-37PM"
		Ser. No. 10001 ~ 10100 (DXC-3000PM)
		Ser. No. 10101 and higher (DXC-3000PM)
307	A-7560-042-A	MOUNTED CIRCUIT BOARD "YC-35" (only DXC-3000A/AP)
308	1-552-665-00	SWITCH, MICRO (S102)
309	2-266-238-00	GUIDE, BATTERY
310	3-676-314-00	CONTACT
311	3-699-012-02	GUIDE, PCB
312	3-699-016-01	HOLDER, MICROPHONE
313	3-699-042-01	CASE, BATTERY
314	3-699-043-02	HOLDER, CONTACT
315	3-699-062-01	COVER, MICROPHONE
316	3-699-064-02	SCREW(M3x10), STEP
317	8-814-189-31	MICROPHONE BULTI-IN (C-1007A)
318	9-911-844-XX	CUSHION

### 6-3. PACKING MATERIAL AND ACCESSORIES

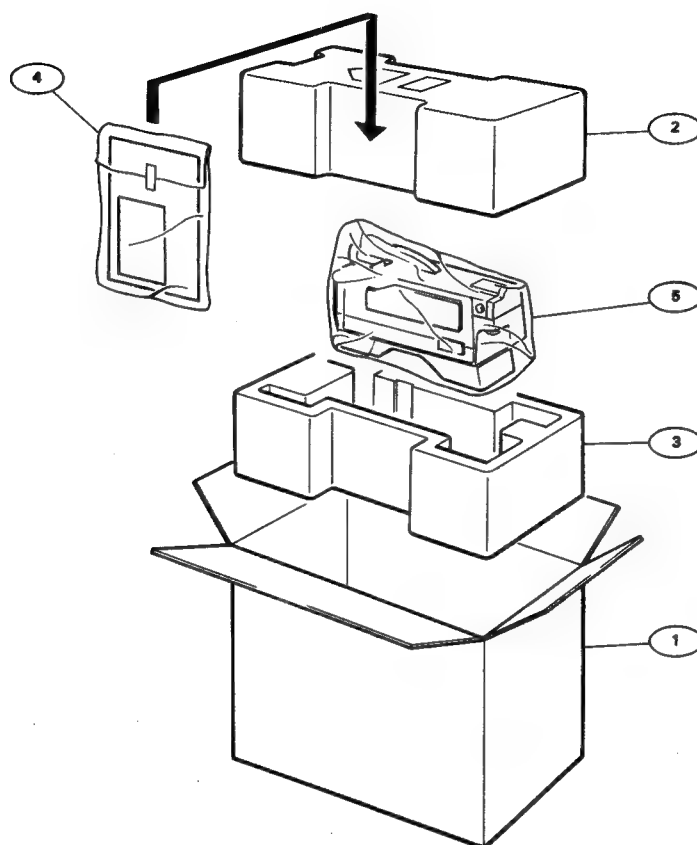
#### 6-3. 包装物和附件(提供)



No.	Part No.	Description
1	3-682-752-01	CUSHION, UPPER
2	3-682-753-01	CUSHION, LOWER
3	3-699-078-01	CARTON, INDIVIDUAL (DXC-3000)
	3-699-098-01	CARTION, INDIVIDUAL (DXC-3000A)
	3-699-079-01	CARTION, INDIVIDUAL (DXC-3000P)
	3-699-103-01	CARTION, INDIVIDUAL (DXC-3000AP)
	3-699-089-01	CARTION, INDIVIDUAL (DXC-3000PM)
4	3-701-630-01	BAG, POLY (FOR MANUAL, WARRANTY CARD, REGISTRATION, AND QUESTION- NAIRE)
5	3-701-641-00	BAG, POLY (FOR DXC-3000/3000P/3000PM/ 3000K/3000PK/3000PMK/3000A/ 3000AP/3000AK/3000APK)
6	3-701-647-00	GAG, POLY (FOR CARRYING CASE)
7	3-760-927-13	MANUAL INSTRUCTION (ENGLISH) (DXC-3000/3000PM)
	3-760-927-32	MANUAL INSTRUCTION (FRENCH) (DXC-3000P)
	3-760-927-42	MANUAL INSTRUCTION (GERMAN) (DXC-3000P)
	3-760-927-51	MANUAL INSTRUCTION (CHINESE) (DXC-3000P)
	3-769-802-11	MANUAL INSTRUCTION (DXC-3000A)
	3-769-802-31	MANUAL INSTRUCTION (DXC-3000A)
	3-769-802-41	MANUAL INSTRUCTION (DXC-3000AP)
	3-769-802-51	MANUAL INSTRUCTION (DXC-3000AP)
8	3-764-889-01	CHART FOR FLANGE FOCAL LENGTH ADJUSTMENT

## PACKING

DXC-3000/P/PM  
DXC-3000A/AP



### DXC-3000H/3000PH/3000AH/3000APH

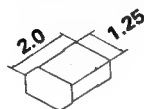
Ref. No.	Part No.	Description
1	3-699-080-01	CARTON, INDIVIDUAL (UC, J)
	3-699-081-01	CARTON, INDIVIDUAL (EK)
2	3-699-083-01	CUSHION, UPPER
3	3-699-082-01	CUSHION, LOWER
4	3-701-630-01	<b>BAG POLY</b> (FOR MANUAL, WARRANTY CARD, REGISTRATION, AND QUESTIONNAIRE) (UC) (FOR MANUAL AND WARRANTY CARD) (J) (FOR MANUAL) (EK)
5	3-701-637-00	<b>BAG POLY (FOR DXC-3000H/ 3000PH)</b>

## 6-4. ELECTRICAL PARTS LIST

## 6-4. 电子零部件表

Parts that are not listed in the "reference numbers order list" are shown in following table.  
Reference numbers are omitted.

## CHIP CERAMIC CAPACITOR



220pF through 0.018 $\mu$ F(B)  $\pm$  10% 50WV  
0.022 $\mu$ F through 0.068 $\mu$ F(F)  $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$  % 50WV  
0.1 $\mu$ F(F)  $\begin{smallmatrix} +80 \\ -20 \end{smallmatrix}$  % 25WV

Parts No. 1-163-□□□-00

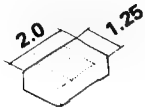
Value	Parts No. - □□□ -
100pF	—
120	—
150	—
180	—
220	001
270	002
330	003
390	004
470	005
560	006
680	007
820	008

Value	Parts No. - □□□ -
0.001 $\mu$ F	009
0.0012	010
0.0015	011
0.0018	012
0.0022	013
0.0027	014
0.0033	015
0.0039	016
0.0047	017
0.0056	018
0.0068	019
0.0082	020

Value	Parts No. - □□□ -
0.01 $\mu$ F	021
0.012	022
0.015	023
0.018	024
0.022	033
0.027	—
0.033	034
0.039	—
0.047	035
0.056	—
0.068	036
0.082	—
0.1	038

Parts that are not listed in the "reference numbers order list" are shown in following table.  
Reference numbers are omitted.

## CHIP RESISTOR



±5% 1/10W  
0Ω through 3.3MΩ

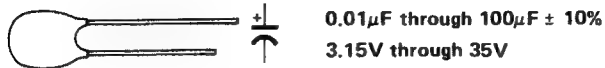
Parts No. 1-216-□□□-00

Value	Parts No. - □□□ -	Value	Parts No. - □□□ -	Value	Parts No. - □□□ -	Value	Parts No. - □□□ -	Value	Parts No. - □□□ -
0Ω	295	30	012	910	048	30	084	910	120
1Ω	—	33Ω	013	1kΩ	049	33kΩ	085	1MΩ	121
1.1	—	36	014	1.1	050	36	086	1.1	122
1.2	—	39	015	1.2	051	39	087	1.2	123
1.3	—	43	016	1.3	052	43	088	1.3	124
1.5	—	47	017	1.5	053	47	089	1.5	125
1.6	—	51	018	1.6	054	51	090	1.6	126
1.8	—	56	019	1.8	055	56	091	1.8	127
2	—	62	020	2	056	62	092	2	128
2.2	298	68	021	2.2	057	68	093	2.2	129
2.4	301	75	022	2.4	058	75	094	2.4	130
2.7	302	82	023	2.7	059	82	095	2.7	131
3	303	91	024	3	060	91	096	3	132
3.3	304	100Ω	025	3.3	061	100kΩ	097	3.3	133
3.6	305	110	026	3.6	062	110	098		
3.9	306	120	027	3.9	063	120	099		
4.3	307	130	028	4.3	064	130	100		
4.7	308	150	029	4.7	065	150	101		
5.1	297	160	030	5.1	066	160	102		
5.6	309	180	031	5.6	067	180	103		
6.2	310	200	032	6.2	068	200	104		
6.8	311	220	033	6.8	069	220	105		
7.5	312	240	034	7.5	070	240kΩ	106		
8.2	313	270	035	8.2	071	270	107		
9.1	314	300	036	9.1	072	300	108		
10Ω	001	330	037	10kΩ	073	330	109		
11	002	360	038	11	074	360	110		
12	003	390	039	12	075	390	111		
13	004	430	040	13	076	430	112		
15	005	470	041	15	077	470	113		
16	006	510	042	16	078	510	114		
18	007	560	043	18	079	560	115		
20	008	620	044	20	080	620	116		
22	009	680	045	22	081	680	117		
24	010	750	046	24	082	750	118		
27	011	820	047	27	083	820	119		

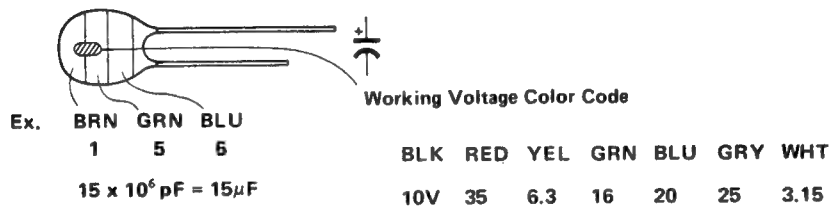
Parts that are not listed in the "reference numbers order list" are shown in following table.

Reference numbers are omitted.

#### TANTALUM CAPACITOR



NOTE: The value of the parts that are marked by \* in the below table are indicated by color code. (to the value with  $\pm 20\%$ )



Parts No. 1-131-□□□-00

Value			Parts No. -□□□-		
0.01µ	35V	*396			
0.015	35	*397			
0.022	35	*398			
0.033	35	*399			
0.047	35	*400			
0.068	35	*401			
0.1	35	*402			
0.15	35	*403			
0.22	35	*404			
0.33	25	*409			
	35	*405			
0.47	20	*412			
	35	*406			
0.68	16	*415			
	25	*410			
	35	*407			
1.0	10	*418			
	20	*413			

Value			Parts No. -□□□-		
1.0µ	35V	*408			
1.5	6.3	*421			
	16	*416			
	25	*411			
	35	348			
2.2	3.15	*424			
	10	*419			
	20	*414			
	25	355			
	35	349			
3.3	6.3	*422			
	16	*417			
	20	362			
	25	356			
	35	350			
4.7	3.15	*425			
	10	*420			
	16	369			

Value			Parts No. -□□□-		
4.7µ	20V	363			
	25	357			
	35	351			
6.8	6.3	*423			
	10	376			
	16	370			
	20	364			
	25	358			
	35	352			
10	3.15	*426			
	6.3	383			
	10	377			
	16	371			
	20	365			
	25	359			
	35	353			
15	3.15	390			
	6.3	384			

Value			Parts No. -□□□-		
15µ	10V	378			
	16	372			
	20	366			
	25	360			
22	3.15	391			
	6.3	385			
	10	379			
	16	373			
	20	367			
33	3.15	392			
	6.3	386			
	10	380			
	16	374			
47	3.15	393			
	6.3	387			
	10	381			
68	3.15	394			
	6.3	388			
100	3.15	395			

Ref. No. Part No. Description

## AT-39 BOARD

A-7513-340-A MOUNTED CIRCUIT BOARD "AT-39"  
Ser. No. 10001 ~ 14770 (DXC-3000)  
10001 ~ 15265 (DXC-3000P)  
10001 ~ 10100 (DXC-3000PM)

A-7513-340-B MOUNTED CIRCUIT BOARD "AT-39"  
Ser. No. 14771 ~ 15450 (DXC-3000)  
15266 ~ 16485 (DXC-3000P)

A-7513-340-C MOUNTED CIRCUIT BOARD "AT-39"  
Ser. No. 15451 and higher (DXC-3000)  
16486 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

C1 1-124-638-11 ELECT 22 20% 10V  
C2 1-124-224-00 ELECT 47 20% 6.3V  
C3 1-124-224-00 ELECT 47 20% 6.3V  
C4 1-124-229-00 ELECT 33 20% 6.3V  
C5 1-124-229-00 ELECT 33 20% 6.3V

C6 1-124-229-00 ELECT 33 20% 6.3V  
C7 1-131-341-00 TANTAL 0.1 10% 35V  
C8 1-124-462-00 ELECT 10 20% 16V  
C9 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C13 1-124-638-11 ELECT 22 20% 10V

C14 1-124-638-11 ELECT 22 20% 10V  
C16 1-124-236-00 ELECT 47 20% 10V  
C17 1-124-277-11 ELECT 4.7 20% 25V  
C18 1-123-661-00 ELECT 100 20% 6.3V  
C19 1-163-125-00 CERAMIC CHIP 220PF 5% 50V

C20 1-124-638-11 ELECT 22 20% 10V  
C21 1-124-638-11 ELECT 22 20% 10V  
C23 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C24 1-124-638-11 ELECT 22 20% 10V  
C25 1-124-638-11 ELECT 22 20% 10V

C26 1-124-245-00 ELECT 4.7 20% 25V  
C27 1-124-245-00 ELECT 4.7 20% 25V  
C28 1-124-245-00 ELECT 4.7 20% 25V  
C29 1-124-245-00 ELECT 4.7 20% 25V  
C30 1-124-148-00 ELECT 100 20% 25V

C31 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C32 1-123-611-00 ELECT 1 20% 50V  
C33 1-123-236-00 ELECT 47 20% 10V  
C34 1-124-638-11 ELECT 22 20% 10V  
C35 1-123-611-00 ELECT 1 20% 50V

C36 1-123-611-00 ELECT 1 20% 50V  
C39 1-123-611-00 ELECT 1 20% 50V  
C40 1-163-133-00 CERAMIC CHIP 470PF 5% 50V  
C41 1-124-638-11 ELECT 22 20% 10V  
C42 1-124-462-00 ELECT 10 20% 16V

C43 1-124-462-00 ELECT 10 20% 16V  
C44 1-124-638-11 ELECT 22 20% 10V  
C45 1-124-638-11 ELECT 22 20% 10V  
C53 1-124-638-11 ELECT 22 20% 10V  
C54 1-124-638-11 ELECT 22 20% 10V

Ref. No. Part No. Description

C59 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C62 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C63 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C65 1-124-462-00 ELECT 10 20% 16V  
C66 1-125-299-00 DOUBLE LAYERS 47000 5.5V  
Ser. No. 10001 ~ 13840 (DXC-3000)  
10001 ~ 14165 (DXC-3000P)  
10001 ~ 10100 (DXC-3000PM)

1-125-443-11 DOUBLE LAYERS 47000 5.5V  
Ser. No. 13841 and higher (DXC-3000)  
14166 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

C68 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C69 1-124-638-11 ELECT 22 20% 16V  
C70 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C71 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C72 1-163-133-00 CERAMIC CHIP 470PF 5% 50V  
C73 1-163-133-00 CERAMIC CHIP 470PF 5% 50V

CN1 1-562-728-11 RECEPTACLE, 50P FEMALE

D1 8-719-100-03 1S2835  
D2 8-719-100-03 1S2835  
D3 8-719-100-03 1S2835  
D4 8-719-100-03 1S2835  
D5 8-719-100-05 1S2837

D6 8-719-101-23 1S123  
D7 8-719-100-03 1S2835  
D8 8-719-100-05 1S2837  
D9 8-719-100-05 1S2837  
D10 8-719-100-05 1S2837

D11 8-719-100-05 1S2837  
D12 8-719-100-03 1S2835  
D13 8-719-105-99 RD6.2M-B1  
D14 8-719-100-03 1S2835  
D15 8-719-105-91 RD5.6M-B2

D16 8-719-108-13 1S955  
D17 8-719-108-13 1S955  
D18 8-719-101-23 1S123  
D19 8-719-100-05 1S2837  
D20 8-719-100-05 1S2837

D21 8-719-100-05 1S2837  
D22 8-719-100-03 1S2835  
D23 8-719-100-05 1S2837  
D24 8-719-100-03 1S2835  
D25 8-719-100-05 1S2837

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
D26	8-719-100-03	1S2835	Q11	8-729-100-66	2SC1623
D27	8-719-100-05	1S2837	Q12	8-729-109-44	2SK94
D28	8-719-100-05	1S2837	Q13	8-729-100-66	2SC1623
	Ser. No. 15451 and higher (DXC-3000)		Q14	8-729-100-66	2SC1623
	16486 and higher (DXC-3000P)		Q15	8-729-100-66	2SC1623
	10101 and higher (DXC-3000PM)		Q16	8-729-175-73	2SC2757
	60001 and higher (DXC-3000A)		Q17	8-729-175-73	2SC2757
	80001 and higher (DXC-3000AP)		Q18	8-729-100-76	2SA812
			Q19	8-729-100-66	2SC1623
			Q20	8-729-100-66	2SC1623
IC1	8-759-240-53	TC4053BP: TOSHIBA	Q21	8-729-100-66	2SC1623
IC2	8-759-131-11	$\mu$ PC311C: NEC	Q22	8-729-100-76	2SA812
IC3	8-759-729-03	NJM2903D: JRC	Q23	8-729-100-66	2SC1623
IC4	8-759-900-64	TL064CN: TI	Q24	8-729-109-44	2SK94
IC5	8-759-240-53	TC4053BP: TOSHIBA	Q25	8-729-102-03	2SD1020
IC6	8-759-990-82	TL082CP: TI	Q26	8-729-205-02	2SA1150
IC7	8-759-900-64	TL064CN: TI	Q27	8-729-100-66	2SC1623
IC8	8-759-240-69	TC4069UBP: TOSHIBA	Q28	8-729-100-76	2SA812
IC9	8-759-303-31	HD44860B42: HITACHI	Q29	8-729-100-76	2SA812
IC10	8-759-240-51	TC4051BP: TOSHIBA	Q30	8-729-100-76	2SA812
IC11	8-759-240-51	TC4051BP: TOSHIBA	Q31	8-729-100-66	2SC1623
IC12	8-759-900-64	TL064CN: TI	Q32	8-729-100-66	2SC1623
IC13	8-759-900-64	TL064CN: TI	Q33	8-729-100-66	2SC1623
IC14	8-759-900-64	TL064CN: TI	Q34	8-729-100-66	2SC1623
IC15	8-759-240-53	TC4053BP: TOSHIBA	Q35	8-729-100-66	2SC1623
IC16	8-759-400-89	MN1237AD: MATSUSHITA	Q36	8-729-100-66	2SC1623
IC17	8-759-240-01	TC4001BP: TOSHIBA	Q37	8-729-100-76	2SA812
IC18	8-759-240-69	TC40690UBP: TOSHIBA			
IC19	8-759-200-81	TC4053BF: TOSHIBA			
	Ser. No. 15451 and higher (DXC-3000)		R86	1-247-694-11	CARBON 33 5% 1/4W
	16486 and higher (DXC-3000P)		R87	1-247-694-11	CARBON 33 5% 1/4W
	10101 and higher (DXC-3000PM)		R165	1-249-423-11	CARBON 3.3K 5% 1/4W
	60001 and higher (DXC-3000A)				
	80001 and higher (DXC-3000AP)				
L1	1-408-429-00	MICRO 470	RP1	1-231-387-00	25K
L2	1-408-429-00	MICRO 470			
L3	1-408-421-00	MICRO 100			
Q1	8-729-100-76	2SA812	RV1	1-226-702-00	METAL 2.2K
Q2	8-729-100-76	2SA812	RV2	1-226-773-11	METAL 22K
Q3	8-729-100-76	2SA812	RV3	1-226-702-00	METAL 2.2K
Q4	8-729-100-66	2SC1623	RV4	1-226-776-11	METAL 220K
Q5	8-729-100-66	2SC1623			
Q6	8-729-100-66	2SC1623	S1	1-553-510-00	SLIDE
Q7	8-729-100-66	2SC1623			
Q8	8-729-100-66	2SC1623			
Q9	8-729-100-66	2SC1623	X1	1-527-532-00	400KHz
Q10	8-729-100-76	2SA812			



Ref. No. Part No. Description

**CN-36 BOARD**

1-617-360-11 PRINTED CIRCUIT BOARD "CN-36"  
Ser. No. 10001 ~ 15070 (DXC-3000)  
10001 ~ 15965 (DXC-3000P)  
10001 ~ 10100 (DXC-3000PM)

1-617-360-12 PRINTED CIRCUIT BOARD "CN-36"  
Ser. No. 15071 ~ 15450 (DXC-3000)  
15966 ~ 16485 (DXC-3000P)

1-617-360-13 PRINTED CIRCUIT BOARD "CN-36"  
Ser. No. 15451 and higher (DXC-3000)  
16486 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

J1 1-507-883-00 SMALL TYPE 4P

Q1 8-729-201-04 2SC2878  
Ser. No. 15451 and higher (DXC-3000)  
16486 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

R1 1-249-422-11 CARBON 2.7K 50% 1/4W  
Ser. No. 15451 and higher (DXC-3000)  
16486 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

S1 1-570-491-11 ROTARY "VTR 1/2/3/4"

Ref. No. Part No. Description

**EN-39/39P/39PM BOARD (DXC-3000/P/PM)  
EN-39A/AP BOARD (DXC-3000A/AP)**

A-7513-341-A MOUNTED CIRCUIT BOARD  
"EN-39N" (DXC-3000)

A-7513-342-A MOUNTED CIRCUIT BOARD  
"EN-39P" (DXC-3000P)

A-7513-461-A MOUNTED CIRCUIT BOARD  
"EN-39PM" (DXC-3000PM)

A-7513-661-A MOUNTED CIRCUIT BOARD  
"EN-39AN" (DXC-3000A)

A-7513-663-A MOUNTED CIRCUIT BOARD  
"EN-39AP" (DXC-3000AP)

C1 1-124-236-00 ELECT 47 20% 10V  
C2 1-124-224-00 ELECT 47 20% 6.3V  
C3 1-107-048-00 MICA 6.8PF ±0.5PF 500V  
C5 1-107-026-00 MICA 5.1PF ±0.5PF 500V  
C8 1-107-044-00 MICA 3.3PF ±0.5PF 500V

C9 1-107-046-00 MICA 4.7PF ±0.5PF 500V  
C10 1-123-661-00 ELECT 100 20% 6.3V  
C11 1-124-584-00 ELECT 100 20% 10V  
C14 1-124-638-00 ELECT 22 20% 10V  
C15 1-124-236-00 ELECT 47 20% 10V

C16 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C17 1-124-236-00 ELECT 47 20% 10V  
C18 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C19 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C22 1-163-117-00 CERAMIC CHIP 100PF 5% 50V

C24 1-124-462-00 ELECT 10 20% 16V  
C25 1-124-462-00 ELECT 10 20% 16V  
C26 1-107-048-00 MICA 6.8PF ±0.5PF 500V  
C27 1-124-638-11 ELECT 22 20% 10V  
C28 1-124-462-00 ELECT 10 20% 16V

C29 1-124-462-00 ELECT 10 20% 16V (EK)  
C30 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C31 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C32 1-163-105-00 CERAMIC CHIP 33PF 5% 50V (UC)  
1-163-125-00 CERAMIC CHIP 220PF 5% 50V (BR)  
1-163-113-00 CERAMIC CHIP 68PF 5% 50V (EK)  
C33 1-163-113-00 CERAMIC CHIP 68PF 5% 50V

C34 1-124-638-11 ELECT 22 20% 16V  
C36 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C38 1-107-085-00 MICA 100PF 5% 50V (UC, BR)  
1-107-167-00 MICA 75PF 5% 50V (EK)  
C39 1-107-085-00 MICA 100PF 5% 50V (UC, BR)  
1-107-167-00 MICA 75PF 5% 50V (EK)  
C43 1-124-638-11 ELECT 22 20% 10V

C44 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C45 1-124-234-00 ELECT 22 20% 16V  
C46 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C47 1-163-125-00 CERAMIC CHIP 220PF 5% 50V  
C48 1-163-097-00 CERAMIC CHIP 15PF 5% 50V

Ref. No.	Part No.	Description
C49	1-163-097-00	CERAMIC CHIP 15PF 5% 50V
C51	1-124-584-00	ELECT 100 20% 10V
C53	1-124-140-00	ELECT 220 20% 6.3V
C54	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C55	1-123-661-00	ELECT 100 20% 6.3V
C57	1-124-638-11	ELECT 22 20% 10V
C58	1-124-236-00	ELECT 47 20% 10V
C59	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C62	1-123-661-00	ELECT 100 20% 6.3V
C63	1-124-236-00	ELECT 47 20% 10V
C69	1-124-462-00	ELECT 10 20% 16V
C70	1-124-462-00	ELECT 10 20% 16V
C71	1-163-133-00	CERAMIC CHIP 470PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-100-03	1S2835
D3	8-719-100-05	1S2837
D6	8-719-100-03	1S2835
D7	8-719-100-05	1S2837
D9	8-719-100-41	RD6.8E-B2
D10	8-719-100-05	1S2837
D11	8-719-100-03	1S2835
D12	8-719-100-13	RD2.7E-B2
D13	8-719-101-23	1SS123
D14	8-719-923-48	1S2348H
DL1	1-415-306-00	340nS
FL1	1-235-161-00	BAND PASS 3.58MHz (UC, BR)
	1-235-181-00	BAND PASS 4.43MHz (EK)
IC1	8-759-909-77	$\mu$ A711CN: TI
IC2	8-759-906-59	CX22017: SONY
IC3	8-759-200-20	TC40H076AP: TOSHIBA
IC4	8-759-240-69	TC4069UBP: TOSHIBA
IC5	8-759-729-03	NJM2903D: JRC
IC6	8-759-240-53	TC4053BP: TOSHIBA
IC7	8-759-240-53	TC4053BP: TOSHIBA
IC8	8-759-240-53	TC4053BP: TOSHIBA
L1	1-408-409-00	MICRO 10
L2	1-408-409-00	MICRO 10
L3	1-408-413-00	MICRO 22
L4	1-408-413-00	MICRO 22
L5	1-408-427-00	MICRO 330

Ref. No.	Part No.	Description
L6	1-408-417-00	MICRO 47
L7	1-408-413-00	MICRO 22
L8	1-408-427-00	MICRO 330
L9	1-408-417-00	MICRO 47
L10	1-408-409-00	MICRO 10 (UC)
	1-408-417-00	MICRO 47 (EK, BR)
L11	1-408-413-00	MICRO 22
L12	1-408-413-00	MICRO 22
L13	1-408-413-00	MICRO 22
L16	1-408-413-00	MICRO 22
L17	1-408-413-00	MICRO 22
LV1	1-408-844-00	22
Q1	8-729-100-76	2SA812
Q2	8-729-100-76	2SA812
Q3	8-729-100-66	2SC1623
Q4	8-729-100-76	2SA812
Q5	8-729-100-66	2SC1623
Q6	8-729-100-76	2SA812
Q7	8-729-100-66	2SC1623
Q8	8-729-100-66	2SC1623
Q9	8-729-100-76	2SA812
Q10	8-729-100-66	2SC1623
Q11	8-729-100-76	2SA812
Q12	8-729-100-66	2SC1623
Q13	8-729-100-76	2SA812
Q14	8-729-100-66	2SC1623
Q15	8-729-100-66	2SC1623
Q16	8-729-100-76	2SA812
Q17	8-729-100-66	2SC1623
Q18	8-729-100-66	2SC1623
Q19	8-729-100-66	2SC1623
Q20	8-729-100-76	2SA812
Q21	8-729-100-76	2SA812
Q22	8-729-100-66	2SC1623
Q23	8-729-100-66	2SC1623
Q24	8-729-100-66	2SC1623
Q25	8-729-100-66	2SC1623
Q26	8-729-100-66	2SC1623
Q27	8-729-100-66	2SC1623
Q28	8-729-100-76	2SA812
Q29	8-729-100-76	2SA812
Q30	8-729-100-76	2SA812

Ref. No.	Part No.	Description
Q31	8-729-100-66	2SC1623
Q32	8-729-100-66	2SC1623
Q33	8-729-100-76	2SA812
Q34	8-729-100-66	2SC1623
Q35	8-729-201-04	2SC2878
Q36	8-729-201-04	2SC2878
Q37	8-729-201-04	2SC2878
Q38	8-729-100-66	2SC1623
Q39	8-729-100-66	2SC1623
Q40	8-729-100-66	2SC1623
Q41	8-729-100-76	2SA812
Q42	8-729-100-66	2SC1623
Q43	8-729-100-66	2SC1623
Q44	8-729-100-66	2SC1623
Q45	8-729-100-76	2SA812
Q46	8-729-100-66	2SC1623
Q47	8-729-100-66	2SC1623
Q48	8-729-100-66	2SC1623
Q49	8-729-100-66	2SC1623
Q50	8-729-100-76	2SA812
Q51	8-729-100-66	2SC1623
Q52	8-729-100-76	2SA812
R1	1-214-482-00	METAL 2.55K 1% 1/2W
R2	1-214-483-00	METAL 4.99K 1% 1/2W
R3	1-214-485-00	METAL 13.7K 1% 1/2W
R6	1-215-445-00	METAL 10K 1% 1/6W
R7	1-215-433-00	METAL 3.3K 1% 1/6W (UC,BR)
	1-215-434-00	METAL 3.6K 1% 1/6W (EK)
R11	1-215-421-00	METAL 1K 1% 1/6W
R12	1-215-421-00	METAL 1K 1% 1/6W
R16	1-215-429-00	METAL 2.2K 1% 1/6W
R17	1-215-438-00	METAL 5.1K 1% 1/6W
R24	1-215-437-00	METAL 4.7K 1% 1/6W
R25	1-215-453-00	METAL 22K 1% 1/6W
R26	1-215-394-00	METAL 75 1% 1/6W
R27	1-215-394-00	METAL 75 1% 1/6W
R49	1-214-502-00	METAL 2.67K 0.5% 1/4W (UC,BR)
	1-214-482-00	METAL 2.55K 1% 1/2W (EK)
R50	1-214-501-00	METAL 2.32K 0.5% 1/4W (UC,BR)
	1-214-485-00	METAL 13.7K 1% 1/2W (EK)
R51	1-215-421-00	METAL 1K 1% 1/6W
R52	1-215-421-00	METAL 1K 1% 1/6W
R56	1-215-428-00	METAL 2K 1% 1/6W
R58	1-215-428-00	METAL 5.1K 1% 1/6W
R64	1-215-414-00	METAL 510 1% 1/6W

Ref. No.	Part No.	Description
R65	1-215-454-00	METAL 24K 1% 1/6W
R66	1-215-448-00	METAL 13K 1% 1/6W
R71	1-215-421-00	METAL 1K 1% 1/6W
R72	1-215-421-00	METAL 1K 1% 1/6W
R75	1-215-432-00	METAL 3K 1% 1/6W (UC,BR)
	1-215-437-00	METAL 4.7K 1% 1/6W (EK)
R78	1-214-482-00	METAL 2.55K 1% 1/2W (EK)
R79	1-214-483-00	METAL 4.99K 1% 1/2W (EK)
R80	1-214-503-00	METAL 3.32K 0.5% 1/4W (UC,BR)
R81	1-214-500-00	METAL 2.26K 0.5% 1/4W (UC,BR)
R83	1-215-423-00	METAL 1.2K 1% 1/6W (UC,BR)
	1-215-425-00	METAL 1.5K 1% 1/6W (EK)
R87	1-215-428-00	METAL 2K 1% 1/6W
R89	1-215-428-00	METAL 2K 1% 1/6W
R98	1-215-414-00	METAL 510 1% 1/6W
R99	1-215-454-00	METAL 24K 1% 1/6W
R100	1-215-448-00	METAL 13K 1% 1/6W
R101	1-215-431-00	METAL 2.7K 1% 1/6W
R102	1-215-414-00	METAL 510 1% 1/6W
R123	1-215-393-00	METAL 68 1% 1/6W
R124	1-215-393-00	METAL 68 1% 1/6W
R128	1-215-393-00	METAL 68 1% 1/6W
R135	1-215-394-00	METAL 75 1% 1/6W
R153	1-215-393-00	METAL 68 1% 1/6W
R164	1-215-423-00	METAL 1.2K 1% 1/6W (UC,BR)
	1-215-425-00	METAL 1.5K 1% 1/6W (EK)
R170	1-249-399-11	CARBON 33 5% 1/6W
RV1	1-230-520-11	METAL 1K
RV2	1-226-703-11	METAL 10K
RV3	1-226-702-00	METAL 2.2K
RV4	1-226-702-00	METAL 2.2K
RV5	1-226-722-11	METAL 4.7K
RV6	1-226-702-00	METAL 2.2K
RV7	1-226-770-11	METAL 470
RV8	1-226-702-00	METAL 2.2K
RV9	1-226-773-11	METAL 22K (UC, BR)
RV10	1-226-772-11	METAL 4.7K
RV11	1-237-503-21	CERMET 10K
RV12	1-237-503-21	CERMET 10K
S1	1-554-508-00	SLIDE
S2	1-554-508-21	SLIDE
S3	1-554-508-21	SLIDE

T1 1-427-270-XX OUTPUT 750  $\Omega$  : 8  $\Omega$

Ref. No.	Part No.	Description
<b>HN-42 BOARD</b>		
	A-7513-334-A	MOUNTED CIRCUIT BOARD "HN-42"

<b>C1</b>	<b>1-130-483-00</b>	<b>MYLAR 0.01 5% 50V</b>
<b>C2</b>	<b>1-130-483-00</b>	<b>MYLAR 0.01 5% 50V</b>
<b>C3</b>	<b>1-130-483-00</b>	<b>MYLAR 0.01 5% 50V</b>
<b>C4</b>	<b>1-130-483-00</b>	<b>MYLAR 0.01 5% 50V</b>
<b>C5</b>	<b>1-130-483-00</b>	<b>MYLAR 0.01 5% 50V</b>
		<b>Ser. No. 11111 and higher (UC)</b>
		<b>10641 and higher (EK)</b>
		<b>10001 and higher (BR)</b>

CN1	1-562-877-11	RECEPTACLE, 50P FEMALE
CN2	1-562-877-11	RECEPTACLE, 50P FEMALE
CN3	1-562-877-11	RECEPTACLE, 50P FEMALE
CN4	1-562-877-11	RECEPTACLE, 50P FEMALE
CN5	1-562-877-11	RECEPTACLE, 50P FEMALE
CN6	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-562-026-00	PLUG CONTACT
CN7	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN8	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
CN9	1-560-619-00	RECEPTACLE, 7P MALE
	1-561-754-22	PLUG HOUSING 7P
	1-560-372-00	PLUG CONTACT
CN10	1-564-017-00	RECEPTACLE, 7P MALE
	1-562-152-11	PLUG HOUSING 7P
	1-564-026-00	PLUG CONTACT
CN11	1-564-018-11	RECEPTACLE, 8P MALE
	1-562-153-11	PLUG HOUSING 8P
	1-564-026-00	PLUG CONTACT
CN12	1-564-014-00	RECEPTACLE, 4P MALE
	1-562-149-11	PLUG HOUSING 4P
	1-564-026-00	PLUG CONTACT
CN13	1-564-016-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PLUG CONTACT
CN14	1-560-619-00	RECEPTACLE, 7P MALE
	1-561-754-12	PLUG HOUSING 7P
	1-560-372-00	PLUG CONTACT
CN15	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT

Ref. No.	Part No.	Description
CN16	1-560-368-00	RECEPTACLE, 6P
CN17	1-560-365-00	RECEPTACLE, 3P MALE
	1-561-515-00	PLUG HOUSING 3P
	1-560-372-00	PLUG CONTACT
CN18	1-564-022-00	RECEPTACLE, 12P MALE
	1-562-157-11	PLUG HOUSING 12P
	1-564-026-00	PLUG CONTACT
CN19	1-564-877-11	RECEPTACLE, 15P MALE
	1-562-958-11	PLUG HOUSING 15P
	1-564-026-00	PLUG CONTACT
CN20	1-564-022-00	RECEPTACLE, 12P MALE
	1-562-157-11	PLUG HOUSING 12P
	1-564-026-00	PLUG CONTACT
CN21	1-564-012-00	RECEPTACLE, 2P MALE
	1-562-147-11	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT

<b>L1</b>	<b>1-408-415-00</b>	<b>MICRO 33</b>
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Ref. No. Part No. Description

**IE-14N/14P BOARD**

A-7513-343-A MOUNTED CIRCUIT BOARD  
"IE-14N" (UC, BR)  
A-7513-344-A MOUNTED CIRCUIT BOARD  
"IE-14P" (EK)

C3 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C4 1-131-361-00 TANTAL. 2.2 10% 20V  
C5 1-163-088-00 CERAMIC CHIP 5PF  $\pm 0.25$ PF 50V  
C11 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C24 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
  
C25 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C27 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C28 1-131-343-00 TANTAL. 0.22 10% 35V  
C29 1-131-361-00 TANTAL. 2.2 10% 20V  
C30 1-124-140-00 ELECT 220 20% 10V  
  
C31 1-124-229-00 ELECT 33 20% 10V  
C32 1-124-229-00 ELECT 33 20% 10V  
C33 1-131-347-00 TANTAL. 1 20% 35V  
C34 1-131-361-00 TANTAL. 2.2 10% 20V  
C35 1-131-361-00 TANTAL. 2.2 10% 20V  
  
C36 1-131-343-00 TANTAL. 0.22 10% 35V  
C41 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C42 1-131-361-00 TANTAL. 2.2 10% 20V  
C44 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C45 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
  
C46 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C47 1-124-229-00 ELECT 33 20% 10V  
C48 1-131-347-00 TANTAL. 1 20% 35V  
C51 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C53 1-163-091-00 CERAMIC CHIP 8PF  $\pm 0.25$ PF 50V  
  
C54 1-163-091-00 CERAMIC CHIP 8PF  $\pm 0.25$ PF 50V  
C57 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C58 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C59 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C61 1-163-091-00 CERAMIC CHIP 8PF  $\pm 0.25$ PF 50V  
  
C62 1-163-091-00 CERAMIC CHIP 8PF  $\pm 0.25$ PF 50V  
C66 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C67 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C69 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C70 1-124-462-00 ELECT 10 20% 16V  
  
C71 1-124-462-00 ELECT 10 20% 16V  
C74 1-124-462-00 ELECT 10 20% 16V  
C75 1-124-462-00 ELECT 10 20% 16V  
C77 1-124-229-00 ELECT 33 20% 10V  
C78 1-124-229-00 ELECT 33 20% 10V  
  
C81 1-124-963-11 ELECT 33 20% 16V  
C88 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C89 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C90 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C91 1-163-093-00 CERAMIC CHIP 10PF 5% 50V  
C96 1-102-074-11 CERAMIC 0.001 10% 50V

Ref. No. Part No. Description

CN1 1-562-728-11 RECEPTACLE, 50P FEMALE

D1 8-719-100-05 1S2837  
D2 8-719-100-05 1S2837  
D3 8-719-100-05 1S2837

DL1 1-415-305-51 63.47 $\mu$ S (UC, BR)  
1-415-305-61 63.915 $\mu$ S (EK)  
DL2 1-415-307-00 165nS

IC1 8-759-700-95 NJM1496M: JRC  
IC2 8-759-700-95 NJM1496M: JRC  
IC3 8-759-907-33  $\mu$ A733CN: TI  
IC4 8-759-400-05 AN6041: PANASONIC  
IC5 8-759-729-03 NJM2903D: JRC  
  
IC6 8-759-240-53 TC4053BP: TOSHIBA  
IC7 8-759-990-62 TL062CP: TI  
IC8 8-759-990-62 TL062CP: TI  
IC9 8-758-150-00 CX815: SONY

L1 1-408-413-00 MICRO 22  
L2 1-408-409-00 MICRO 10  
L3 1-408-147-00 MICRO 2.2  
L4 1-408-146-00 MICRO 1  
L5 1-408-409-00 MICRO 10  
  
L6 1-408-409-00 MICRO 10  
L7 1-408-413-00 MICRO 22  
L8 1-408-412-00 MICRO 18  
L9 1-408-413-00 MICRO 22  
L10 1-408-413-00 MICRO 22  
  
L11 1-408-413-00 MICRO 22  
L12 1-408-413-00 MICRO 22  
L13 1-408-147-00 MICRO 2.2  
L14 1-408-147-00 MICRO 2.2  
L15 1-408-413-00 MICRO 22  
  
L16 1-408-413-00 MICRO 22  
L17 1-408-429-00 MICRO 470  
L18 1-408-147-00 MICRO 2.2  
L20 1-408-147-00 MICRO 2.2

LV1 1-408-388-00 3.3  
LV2 1-408-388-00 3.3

Q1 8-729-100-66 2SC1623  
Q2 8-729-100-66 2SC1623  
Q3 8-729-100-66 2SC1623  
Q4 8-729-100-66 2SC1623  
Q5 8-729-175-72 2SC2757-T33

Ref. No.	Part No.	Description
Q6	8-729-175-72	2SC2757-T33
Q7	8-729-175-72	2SC2757-T33
Q8	8-729-800-43	2SK152-3
Q9	8-729-100-76	2SA812
Q10	8-729-122-63	2SA1226

Ref. No.	Part No.	Description
Q11	8-729-100-66	2SC1623
Q12	8-729-100-66	2SC1623
Q13	8-729-100-66	2SC1623
Q14	8-729-100-66	2SC1623
Q15	8-729-175-72	2SC2757-T33

Q16	8-729-100-66	2SC1623
Q17	8-729-100-76	2SA812
Q18	8-729-800-43	2SK152-3
Q19	8-729-100-66	2SC1623
Q20	8-729-100-66	2SC1623

Q21	8-729-122-63	2SA1226
Q22	8-729-100-76	2SA812
Q23	8-729-100-66	2SC1623
Q24	8-729-175-72	2SC2757-T33
Q25	8-729-175-72	2SC2757-T33

Q26	8-729-122-63	2SA1226
Q27	8-729-800-43	2SK152-3
Q28	8-729-175-72	2SC2757-T33
Q29	8-729-800-43	2SK152-3
Q30	8-729-175-72	2SC2757-T33

Q31	8-729-175-72	2SC2757-T33
Q32	8-729-175-72	2SC2757-T33
Q33	8-729-175-72	2SC2757-T33
Q34	8-729-100-66	2SC1623
Q35	8-729-100-66	2SC1623

Q36	8-729-100-66	2SC1623
Q37	8-729-104-45	2SJ44
Q38	8-729-100-66	2SC1623
Q39	8-729-100-66	2SC1623
Q40	8-729-100-66	2SC1623

Q41	8-729-100-66	2SC1623
Q42	8-729-100-66	2SC1623
Q43	8-729-100-66	2SC1623
Q44	8-729-100-66	2SC1623
Q45	8-729-100-66	2SC1623

Q46	8-729-100-66	2SC1623
Q47	8-729-100-66	2SC1623
Q48	8-729-175-72	2SC2757-T33
Q49	8-729-100-66	2SC1623
Q50	8-729-100-76	2SA812

Q51	8-729-100-66	2SC1623
Q52	8-729-122-63	2SA1226

Ref. No.	Part No.	Description
R9	1-215-422-00	METAL 1.1K 1% 1/6W
R10	1-215-412-00	METAL 430 1% 1/6W
R16	1-215-422-00	METAL 1.1K 1% 1/6W
R17	1-215-412-00	METAL 430 1% 1/6W
R23	1-215-413-00	METAL 470 1% 1/6W

R32	1-215-390-00	METAL 51 1% 1/6W
R33	1-215-390-00	METAL 51 1% 1/6W
R34	1-215-385-00	METAL 33 1% 1/6W
R37	1-215-418-00	METAL 750 1% 1/6W
R39	1-215-418-00	METAL 750 1% 1/6W

R41	1-215-437-00	METAL 4.7K 1% 1/6W
R44	1-215-420-00	METAL 910 1% 1/6W
R46	1-215-462-00	METAL 51K 1% 1/6W
R49	1-215-413-00	METAL 470 1% 1/6W
R50	1-215-437-00	METAL 4.7K 1% 1/6W

R51	1-215-426-00	METAL 1.6K 1% 1/6W
R52	1-215-413-00	METAL 470 1% 1/6W
R64	1-215-457-00	METAL 33K 1% 1/6W
R66	1-215-418-00	METAL 750 1% 1/6W
		Ser. No. 10001 ~ 10830 (DXC-3000)
		10001 ~ 10570 (DXC-3000P)
	1-215-416-00	METAL 620 1% 1/6W
		Ser. No. 10831 and higher (DXC-3000)
		10571 and higher (DXC-3000P)
		10001 and higher (DXC-3000PM)
		60001 and higher (DXC-3000A)
		80001 and higher (DXC-3000AP)

R67	1-215-463-00	METAL 56K 1% 1/6W
R72	1-215-425-00	METAL 1.5K 1% 1/6W
R76	1-215-436-00	METAL 4.3K 1% 1/6W
R77	1-215-418-00	METAL 750 1% 1/6W
R78	1-215-418-00	METAL 750 1% 1/6W
R88	1-215-412-00	METAL 430 1% 1/6W

R89	1-215-450-00	METAL 16K 1% 1/6W
R99	1-215-412-00	METAL 430 1% 1/6W
R100	1-215-412-00	METAL 430 1% 1/6W
R101	1-215-412-00	METAL 430 1% 1/6W
R102	1-215-412-00	METAL 430 1% 1/6W

R119	1-215-433-00	METAL 3.3K 1% 1/6W
R120	1-215-433-00	METAL 3.3K 1% 1/6W
R148	1-215-412-00	METAL 430 1% 1/6W
R164	1-249-429-11	CARBON 10K 5% 1/4W

Ser. No. 13181 and higher (DXC-3000)  
13476 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

Ref. No.	Part No.	Description
RV1	1-226-702-00	METAL 2.2K
RV2	1-228-394-00	METAL 4.7K
RV3	1-230-893-11	METAL 220
		Ser. No. 10001 ~ 10830 (DXC-3000)
		10001 ~ 10570 (DXC-3000P)
	1-228-520-00	METAL 470
		Ser. No. 10831 and higher (DXC-3000)
		10571 and higher (DXC-3000P)
		10001 and higher (DXC-3000PM)
		60001 and higher (DXC-3000A)
		80001 and higher (DXC-3000AP)
RV4	1-237-517-21	CERMET 5K
RV5	1-237-501-21	CERMET 2K
RV6	1-226-772-11	METAL 4.7K
RV7	1-237-503-21	CERMET 10K
S1	1-570-373-11	SLIDE
S2	1-552-509-00	SLIDE

Ref. No. Part No. Description

## PA-40 BOARD

	A-7513-337-A	MOUNTED CIRCUIT BOARD	"PA-40" (R)
	A-7513-338-A	MOUNTED CIRCUIT BOARD	"PA-40" (B)
C1	1-131-345-00	TANTAL. 0.47 10% 35V	
C2	1-131-345-00	TANTAL. 0.47 10% 35V	
C3	1-131-345-00	TANTAL. 0.47 10% 35V	
C4	1-131-345-00	TANTAL. 0.47 10% 35V	
C5	1-131-345-00	TANTAL. 0.47 10% 35V	
C6	1-131-345-00	TANTAL. 0.47 10% 35V	
C7	1-124-234-00	ELECT 22 20% 16V	
C8	1-124-234-00	ELECT 22 20% 16V	
C9	1-163-037-11	CERAMIC CHIP 0.022 10% 25V	
C11	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C12	1-163-105-00	CERAMIC CHIP 33PF 5% 50V	
		Ser. No. 10001 ~ 10830 (DXC-3000)	
		10001 ~ 10570 (DXC-3000P)	
	1-163-101-00	CERAMIC CHIP 22PF 5% 50V	
		Ser. No. 10831 and higher (DXC-3000)	
		10571 and higher (DXC-3000P)	
		10001 and higher (DXC-3000PM)	
		60001 and higher (DXC-3000A)	
		80001 and higher (DXC-3000AP)	
C13	1-163-037-11	CERAMIC CHIP 0.022 10% 25V	
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V	
C16	1-131-382-00	TANTAL. 6.8 10% 6.3V	
C17	1-163-129-00	CERAMIC CHIP 330PF 5% 50V	
C19	1-163-037-11	CERAMIC CHIP 0.022 10% 25V	
CV1	1-141-284-00	TRIMMER 20.5	
FL1	1-235-771-11	LOW PASS 9.5MHz	
Q1	8-729-175-73	2SC2757	
Q2	8-729-100-76	2SA812	
Q3	8-769-401-67	3SK163-1	
Q4	8-729-100-67	2SC1623-L7	
Q5	8-729-100-76	2SA812	
Q6	8-769-401-67	3SK163-1	
Q7	8-729-100-67	2SC1623-L7	
Q8	8-729-100-76	2SA812	
Q9	8-769-401-67	3SK163-1	
Q10	8-729-100-67	2SC1623-L7	
Q11	8-729-100-66	2SC1623	
Q12	8-729-100-66	2SC1623	
Q13	8-729-100-66	2SC1623	
Q14	8-729-100-66	2SC1623	
Q15	8-729-100-66	2SC1623	
Q16	8-729-100-66	2SC1623	

Ref. No. Part No. Description

## PA-41 BOARD

A-7513-339-A MOUNTED CIRCUIT BOARD "PA-41"

C1	1-131-345-00	TANTAL. 0.47 10% 35V
C2	1-131-345-00	TANTAL. 0.47 10% 35V
C3	1-131-345-00	TANTAL. 0.47 10% 35V
C4	1-131-345-00	TANTAL. 0.47 10% 35V
C5	1-131-345-00	TANTAL. 0.47 10% 35V
C6	1-131-345-00	TANTAL. 0.47 10% 35V
C7	1-124-234-00	ELECT 22 20% 16V
C8	1-124-234-00	ELECT 22 20% 16V
C9	1-163-037-11	CERAMIC CHIP 0.022 10% 25V
C11	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C12	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C14	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C15	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C16	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C19	1-131-382-00	TANTAL. 6.8 10% 6.3V
C20	1-163-129-00	CERAMIC CHIP 330PF 5% 50V
C22	1-163-037-11	CERAMIC CHIP. 0.022 10% 25V
FL1	1-235-771-11	LOW PASS 9.5MHz
Q1	8-729-175-73	2SC2757
Q2	8-729-100-76	2SA812
Q3	8-769-401-67	3SK163-1
Q4	8-729-100-66	2SC1623
Q5	8-729-100-76	2SA812
Q6	8-769-401-67	3SK163-1
Q7	8-729-100-66	2SC1623
Q8	8-729-100-76	2SA812
Q9	8-769-401-67	3SK163-1
Q10	8-729-100-66	2SC1623
Q11	8-729-100-76	2SA812
Q12	8-769-401-67	3SK163-1
Q13	8-729-100-66	2SC1623
Q14	8-729-100-76	2SA812
Q15	8-769-401-67	3SK163-1
Q16	8-729-100-66	2SC1623
Q17	8-729-100-66	2SC1623
Q18	8-729-100-66	2SC1623
Q19	8-729-100-66	2SC1623
Q20	8-729-100-66	2SC1623
Q21	8-729-100-66	2SC1623
Q22	8-729-100-66	2SC1623

Ref. No. Part No. Description

## PR-71N/71P BOARD

A-7513-345-A MOUNTED CIRCUIT BOARD  
"PR-71N" (DXC-3000/A)A-7513-346-A MOUNTED CIRCUIT BOARD  
"PR-71P" (DXC-3000P/PM/AP)

C1	1-124-229-00	ELECT 33 20% 10V
C2	1-124-638-11	ELECT 22 20% 10V
C3	1-124-229-00	ELECT 33 20% 10V
C4	1-124-638-11	ELECT 22 20% 10V
C5	1-124-638-11	ELECT 22 20% 10V
C6	1-124-462-00	ELECT 10 20% 16V
C7	1-124-462-00	ELECT 10 20% 16V
C8	1-124-229-00	ELECT 33 20% 10V
C9	1-124-638-11	ELECT 22 20% 10V
C10	1-124-638-11	ELECT 22 20% 10V
C11	1-124-229-00	ELECT 33 20% 10V
C12	1-124-224-00	ELECT 47 20% 10V
C14	1-124-224-00	ELECT 47 20% 10V
C15	1-124-638-11	ELECT 22 20% 10V
C16	1-124-638-11	ELECT 22 20% 10V
C17	1-124-462-00	ELECT 10 20% 16V
C18	1-124-229-00	ELECT 33 20% 10V
C19	1-124-638-11	ELECT 22 20% 10V
C20	1-124-638-11	ELECT 22 20% 10V
C21	1-163-109-00	CERAMIC CHIP 47PF 5% 50V
C22	1-124-229-00	ELECT 33 20% 10V
C23	1-124-229-00	ELECT 33 20% 10V
C24	1-124-229-00	ELECT 33 20% 10V
C25	1-124-638-11	ELECT 22 20% 10V
C26	1-124-638-11	ELECT 22 20% 10V
C27	1-124-462-00	ELECT 10 20% 16V
C28	1-124-229-00	ELECT 33 20% 10V
C29	1-163-099-00	CERAMIC CHIP 18PF 5% 50V
C30	1-124-638-11	ELECT 22 20% 10V
C32	1-124-119-00	ELECT 330 20% 16V
C33	1-124-224-00	ELECT 47 20% 25V
C34	1-124-120-11	ELECT 220 20% 25V
C35	1-124-148-00	ELECT 100 20% 25V
C36	1-124-140-00	ELECT 220 20% 10V
C37	1-124-140-00	ELECT 220 20% 10V
C38	1-124-140-00	ELECT 220 20% 6.3V
C39	1-123-661-00	ELECT 100 20% 6.3V
C40	1-124-140-00	ELECT 220 20% 6.3V
C41	1-123-661-00	ELECT 100 20% 6.3V
C42	1-124-462-00	ELECT 10 20% 16V
C43	1-123-661-00	ELECT 100 20% 6.3V
C44	1-163-133-00	CERAMIC CHIP 470PF 5% 50V
C45	1-123-661-00	ELECT 100 20% 6.3V
C46	1-123-611-00	ELECT 1 20% 50V
C47	1-124-236-00	ELECT 47 20% 16V



Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
C48	1-124-638-11	ELECT 22 20% 6.3V	D26	8-719-100-05	1S2837
C49	1-124-224-00	ELECT 47 20% 6.3V			Ser. No. 10811 and higher (DXC-3000)
C53	1-124-224-00	ELECT 47 20% 6.3V			10441 and higher (DXC-3000P)
C54	1-163-137-00	CERAMIC CHIP 680PF 5% 50V			10001 and higher (DXC-3000PM)
C55	1-124-245-00	ELECT 4.7 20% 25V			60001 and higher (DXC-3000A)
					80001 and higher (DXC-3000AP)
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE	D101	8-719-815-55	1S1555
					Ser. No. 10001 ~ 10810 (DXC-3000)
					10001 ~ 10440 (DXC-3000P)
D1	8-719-951-12	HZ5BLL	D102	8-719-815-55	1S1555
D2	8-719-100-05	1S2837			Ser. No. 10001 ~ 10810 (DXC-3000)
D3	8-719-100-05	1S2837			10001 ~ 10440 (DXC-3000P)
D4	8-719-951-12	HZ5BLL	D103	8-719-815-55	1S1555
D5	8-719-100-05	1S2837			Ser. No. 10001 ~ 10810 (DXC-3000)
					10001 ~ 10440 (DXC-3000P)
D6	8-719-100-05	1S2837	DL1	1-415-307-00	165nS
D7	8-719-942-31	HZ3ALL	DL2	1-415-307-00	165nS
D8	8-719-951-12	HZ5BLL			
D9	8-719-100-05	1S2837	IC1	8-741-134-90	BX1349: SONY
D10	8-719-100-05	1S2837			Ser. No. 10001 ~ 12390 (DXC-3000)
					10001 ~ 12505 (DXC-3000P)
D11	8-719-100-05	1S2837			10001 ~ 10080 (DXC-3000PM)
D12	8-719-908-06	ERA81-005		8-741-134-91	BX1349A: SONY
D13	8-719-908-06	ERA81-005			Ser. No. 12391 and higher (DXC-3000)
D14	8-719-908-06	ERA81-005			12506 and higher (DXC-3000P)
D15	8-719-908-06	ERA81-005			10081 and higher (DXC-3000PM)
					60001 and higher (DXC-3000A)
D16	8-719-908-06	ERA81-005			80001 and higher (DXC-3000AP)
D17	8-719-908-06	ERA81-005	IC2	8-741-134-80	BX1348: SONY
D18	8-719-908-06	ERA81-005	IC3	8-741-135-00	BX1350: SONY
D19	8-719-908-06	ERA81-005	IC4	8-741-135-10	BX1351: SONY
D20	8-719-100-05	1S2837	IC5	8-759-204-51	TC40H008F: TOSHIBA
D21	8-719-105-82	RD5.1M-B2			
D22	8-719-100-05	1S2837			
D23	8-719-100-05	1S2837			
		Ser. No. 10001 ~ 12390 (DXC-3000)			
		10001 ~ 12505 (DXC-3000P)			
		10001 ~ 10080 (DXC-3000PM)			
D24	8-719-100-05	1S2837			
		Ser. No. 10001 ~ 12390 (DXC-3000)			
		10001 ~ 12505 (DXC-3000P)			
		10001 ~ 10080 (DXC-3000PM)			
D25	8-719-100-05	1S2837			
		Ser. No. 10811 and higher (DXC-3000)			
		10441 and higher (DXC-3000P)			
		10001 and higher (DXC-3000PM)			
		60001 and higher (DXC-3000A)			
		80001 and higher (DXC-3000AP)			

Ref. No.	Part No.	Description	Ref. No.	Part No.	Description
IC6	8-741-134-90	BX1349: SONY Ser. No. 10001 ~ 12390 (DXC-3000) 10001 ~ 12505 (DXC-3000P) 10001 ~ 10080 (DXC-3000PM)	Q1	8-729-100-66	2SC1623
			Q2	8-729-100-76	2SA812
			Q3	8-729-100-66	2SC1623
			Q4	8-729-100-66	2SC1623
	8-741-134-91	BX1349A: SONY Ser. No. 12391 and higher (DXC-3000) 12506 and higher (DXC-3000P) 10081 and higher (DXC-3000PM) 60001 and higher (DXC-3000A) 80001 and higher (DXC-3000AP)	Q5	8-729-175-73	2SC2757
			Q6	8-729-100-66	2SC1623
			Q7	8-729-100-66	2SC1623
			Q8	8-729-100-76	2SA812
			Q9	8-729-100-76	2SA812
			Q10	8-729-109-44	2SK94
IC7	8-741-134-80	BX1348: SONY	Q11	8-729-100-76	2SA812
IC8	8-741-135-00	BX1350: SONY	Q12	8-729-100-66	2SC1623
IC9	8-759-200-81	TC4053BF: TOSHIBA	Q13	8-729-100-66	2SC1623
IC10	8-741-134-90	BX1349: SONY Ser. No. 10001 ~ 12390 (DXC-3000) 10001 ~ 12505 (DXC-3000P) 10001 ~ 10080 (DXC-3000PM)	Q14	8-729-100-66	2SC1623
			Q15	8-729-100-76	2SA812
	8-741-134-91	BX1349A: SONY Ser. No. 12391 and higher (DXC-3000) 12506 and higher (DXC-3000P) 10081 and higher (DXC-3000PM) 60001 and higher (DXC-3000A) 80001 and higher (DXC-3000AP)	Q16	8-729-100-66	2SC1623
			Q17	8-729-100-66	2SC1623
			Q18	8-729-175-73	2SC2757
			Q19	8-729-100-66	2SC1623
			Q20	8-729-100-66	2SC1623
IC11	8-741-134-80	BX1348: SONY	Q21	8-729-100-76	2SA812
IC12	8-741-135-00	BX1350: SONY	Q22	8-729-177-44	2SD774-5
IC13	8-759-939-68	TL062ACPS: TI	Q23	8-729-177-44	2SD774-5
IC14	8-759-700-07	NJM2903M: JRC	Q24	8-729-177-44	2SD774-5
			Q25	8-729-100-76	2SA812
			Q26	8-729-100-66	2SC1623
L1	1-408-409-00	MICRO 10	Q27	8-729-100-76	2SA812
L3	1-408-409-00	MICRO 10	Q28	8-729-100-66	2SC1623
L5	1-421-013-00	CHOKE 25	Q29	8-729-100-76	2SA812
L6	1-421-013-00	CHOKE 25	Q30	8-729-109-44	2SK94
L7	1-421-013-00	CHOKE 25	Q31	8-729-109-44	2SK94
L8	1-421-013-00	CHOKE 25			
L9	1-421-013-00	CHOKE 25			
L10	1-408-413-00	MICRO 22	R69	1-247-696-11	CARBON 47 5% 1/4W
L11	1-408-413-00	MICRO 22	R70	1-247-696-11	CARBON 47 5% 1/4W
L12	1-408-413-00	MICRO 22	R74	1-215-447-00	METAL 12K 1% 1/6W
			R75	1-215-449-00	METAL 15K 1% 1/6W
			R77	1-215-445-00	METAL 10K 1% 1/6W
			R78	1-215-445-00	METAL 10K 1% 1/6W
			R88	1-215-443-00	METAL 8.2K 1% 1/6W
			R89	1-215-407-00	METAL 270 1% 1/6W
			R90	1-215-447-00	METAL 12K 1% 1/6W
			R91	1-215-453-00	METAL 22K 1% 1/6W
			R92	1-215-453-00	METAL 22K 1% 1/6W
			R97	1-215-429-00	METAL 2.2K 1% 1/6W
			R126	1-247-708-11	CARBON 470 5% 1/4W
			R127	1-247-708-11	CARBON 470 5% 1/4W
			R128	1-247-708-11	CARBON 470 5% 1/4W

Ref. No.	Part No.	Description
RV1	1-226-771-11	METAL 1K
RV2	1-226-774-00	METAL 47K
RV3	1-226-772-11	METAL 4.7K
RV4	1-226-770-11	METAL 470
RV5	1-226-774-00	METAL 47K
RV6	1-226-771-11	METAL 1K
RV7	1-226-703-11	METAL 10K
RV8	1-226-771-11	METAL 1K
RV9	1-226-772-11	METAL 4.7K
RV10	1-226-770-11	METAL 470
RV11	1-226-774-00	METAL 47K
RV12	1-226-702-00	METAL 2.2K
RV13	1-226-702-00	METAL 2.2K
RV14	1-226-702-00	METAL 2.2K
RV15	1-226-702-00	METAL 2.2K
RV16	1-226-702-00	METAL 2.2K
RV17	1-226-702-11	METAL 2.2K
RV18	1-226-771-11	METAL 1K
RV19	1-226-774-00	METAL 47K
RV20	1-226-772-11	METAL 4.7K
RV21	1-226-770-11	METAL 470
RV22	1-226-774-00	METAL 47K
T1	1-448-363-11	DC-DC CONVERTER
TH1	1-807-467-11	POSITIVE 470 $\Omega$
TH2	1-807-467-11	POSITIVE 470 $\Omega$
TH3	1-807-467-11	POSITIVE 470 $\Omega$

Ref. No. Part No. Description

**SG-37N/37P/37PM BOARD**

A-7513-347-A	MOUNTED CIRCUIT BOARD "SG-37N"
	Ser. No. 10001 ~ 15450 (DXC-3000)
A-7513-347-B	MOUNTED CIRCUIT BOARD "SG-37N"
	Ser. No. 15451 and higher (DXC-3000)
	60001 and higher (DXC-3000A)
A-7513-348-A	MOUNTED CIRCUIT BOARD "SG-37P"
	Ser. No. 10001 ~ 16485 (DXC-3000P)
A-7513-348-B	MOUNTED CIRCUIT BOARD "SG-37P"
	Ser. No. 16486 and higher (DXC-3000P)
	80001 and higher (DXC-3000AP)
A-7513-462-A	MOUNTED CIRCUIT BOARD "SG-37PM"
	Ser. No. 10001 ~ 10100 (DXC-3000 PM)
A-7513-462-B	MOUNTED CIRCUIT BOARD "SG-37PM"
	Ser. No. 10101 and higher (DXC-3000 PM)
C3	1-163-099-00 CERAMIC CHIP 18PF 5% 50V
C4	1-163-111-00 CERAMIC CHIP 56PF 5% 50V (UC, BR)
	1-163-241-11 CERAMIC CHIP 39PF 5% 50V (EK)
C8	1-131-347-00 TANTAL. 1 10% 35V
C11	1-124-284-00 ELECT 10 20% 16V
C17	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C18	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C20	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C21	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C22	1-163-109-00 CERAMIC CHIP 47PF 5% 50V (EK, BR)
C23	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C30	1-131-347-00 TANTAL. 1 10% 35V
C32	1-163-125-00 CERAMIC CHIP 220PF 5% 50V (UC, BR)
C33	1-130-471-00 MYLAR 0.001 50% 50V (UC, BR)
C34	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C36	1-131-341-00 TANTAL. 0.1 10% 35V
C38	1-163-101-00 CERAMIC CHIP 22PF 5% 50V
C39	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C41	1-131-341-00 TANTAL. 0.1 10% 35V
C43	1-163-101-00 CERAMIC CHIP 22PF 5% 50V
C45	1-163-125-00 CERAMIC CHIP 200PF 5% 50V (UC, BR)
C47	1-163-109-00 CERAMIC CHIP 47PF 5% 50V
C51	1-123-611-00 ELECT 1 20% 50V
C52	1-124-463-00 ELECT 0.1 20% 50V
C53	1-123-611-00 ELECT 1 20% 50V
C55	1-123-661-00 ELECT 100 20% 6.3V
C56	1-124-141-00 ELECT 330 20% 10V
C58	1-163-833-00 CERAMIC CHIP 0.068 25V
C60	1-124-135-00 ELECT 470 20% 6.3V
C61	1-124-224-00 ELECT 47 20% 6.3V
C62	1-163-251-00 CERAMIC CHIP 100PF 5% 50V

Ref. No.	Part No.	Description
C63	1-123-661-00	ELECT 100 20% 6.3V
C64	1-163-099-00	CERAMIC CHIP 18PF 5% 50V
C69	1-124-584-00	ELECT 100 20% 10V
C70	1-123-661-00	ELECT 100 20% 6.3V
C73	1-130-471-00	MYLAR 0.001 5% 50V
C74	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C75	1-163-093-00	CERAMIC CHIP 10PF 5% 50V
C76	1-124-462-00	ELECT 10 20% 16V
C78	1-124-462-00	ELECT 10 20% 16V
C80	1-163-117-00	CERAMIC CHIP 100PF 5% 50V
CN1	1-562-728-11	RECEPTACLE, 50P FEMALE
D1	8-719-100-03	1S2835
D2	8-719-101-23	1S5123
D3	8-719-100-03	1S2835
D4	8-719-100-03	1S2835 (UC, BR)
D5	8-719-100-03	1S2835 (UC, BR)
D6	8-719-100-23	RD4.3E-B2
D7	8-719-101-23	1S5123
D8	8-719-100-05	1S2837
D9	8-719-106-70	RD12M-B1
IC1	8-741-134-00	BX1340: SONY
IC2	8-741-133-70	BX1337: SONY
IC3	8-759-240-53	TC4053BP: TOSHIBA
IC4	8-759-135-80	μPC358C: NEC
IC5	8-757-930-11	CX7930A: SONY
IC6	8-759-145-58	μPC4558C: NEC
IC7	8-759-240-53	TC4053BP: TOSHIBA
IC8	8-759-902-21	SN74LS221N: TI (UC, BR)
IC9	8-759-045-57	MC14557BCP: MOTOROLA (UC, BR)
IC10	8-759-220-00	TC40H000P: TOSHIBA (UC, BR)
IC11	8-759-135-80	μPC358C: NEC
IC12	8-759-901-23	SN74LS123N: TI
IC13	8-759-902-21	SN74LS221N: TI
IC14	8-759-605-18	CX518: SONY
IC15	8-759-700-04	NJM2043D-D: JRC
L1	1-408-417-00	MICRO 47
L2	1-408-417-00	MICRO 47
L3	1-408-423-00	MICRO 150 (UC, BR)
	1-408-421-00	MICRO 100 (EK)
L4	1-408-415-00	MICRO 33
L5	1-408-417-00	MICRO 47
L6	1-408-417-00	MICRO 47 (EK)
L7	1-408-417-00	MICRO 47
L8	1-408-417-00	MICRO 47
L9	1-408-417-00	MICRO 47
L10	1-408-417-00	MICRO 47
L11	1-408-401-00	MICRO 2.2

Ref. No.	Part No.	Description
Q1	8-729-100-75	2SA812-M5
Q2	8-729-100-66	2SC1623
Q3	8-729-100-66	2SC1623
Q4	8-729-100-66	2SC1623
Q5	8-729-100-66	2SC1623
Q7	8-729-100-66	2SC1623
Q8	8-729-100-75	2SA812-M5
Q10	8-729-109-44	2SK94 (EK)
Q11	8-729-175-73	2SC2757
Q12	8-729-122-63	2SA1226
Q13	8-729-175-73	2SC2757
Q14	8-729-122-63	2SA1226
Q15	8-729-100-66	2SC1623
Q16	8-729-100-66	2SC1623
Q17	8-729-109-44	2SK94
R8	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
	1-215-429-00	METAL 2.2K 1% 1/6W (EK, BR)
R9	1-215-433-00	METAL 3.3K 1% 1/6W (UC)
	1-215-435-00	METAL 3.9K 1% 1/6W (EK)
	1-215-439-00	METAL 5.6K 1% 1/6W (BR)
R28	1-215-464-00	METAL 62K 1% 1/6W (UC, BR)
R30	1-215-461-00	METAL 47K 1% 1/6W (UC, BR)
R37	1-215-456-00	METAL 30K 1% 1/6W
R38	1-215-455-00	METAL 27K 1% 1/6W
R44	1-215-445-00	METAL 10K 1% 1/6W
R45	1-215-457-00	METAL 33K 1% 1/6W
R46	1-215-453-00	METAL 22K 1% 1/6W
R51	1-215-443-00	METAL 8.2K 1% 1/6W (UC, BR)
	1-215-445-00	METAL 10K 1% 1/6W (EK)
R52	1-215-445-00	METAL 10K 1% 1/6W
R54	1-216-433-00	METAL 3.3K 1% 1/6W (UC, BR)
	1-215-447-00	METAL 12K 1% 1/6W (EK)
R88	1-215-394-00	METAL 75 1% 1/6W
RV1	1-228-519-00	METAL 2.2K
RV2	1-228-759-00	METAL 22K (UC, BR)
RV3	1-228-395-00	METAL 10K
RV4	1-228-761-00	METAL 100K
S1	1-570-850-11	SLIDE (UC, BR)
T1	1-427-487-00	OUTPUT
X1	1-567-549-11	28.63636MHz (UC)
	1-567-550-11	28.375MHz (EK)
	1-527-798-00	14.3024MHz (BR)
X2	1-527-585-00	17.734475MHz (EK)
	1-567-549-11	28.63636MHz (BR)

Ref. No. Part No. Description

**SW-29 BOARD**

1-617-357-11 PRINTED CIRCUIT BOARD "SW-29"  
Ser. No. 10001 ~ 15070 (DXC-3000)  
10001 ~ 15965 (DXC-3000P)  
10001 ~ 10100 (DXC-3000PM)

1-617-357-12 PRINTED CIRCUIT BOARD "SW-29"  
Ser. No. 15071 ~ 15450 (DXC-3000)  
15966 ~ 16485 (DXC-3000P)

1-617-357-13 PRINTED CIRCUIT BOARD "SW-29"  
Ser. No. 15451 and higher (DXC-3000)  
16486 and higher (DXC-3000P)  
10101 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

<b>R1</b>	<b>1-207-620-00</b>	<b>WIREWOUND 1 10% 2W</b>
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**S1** 1-554-506-00 TOGGLE "GAIN"  
**S2** 1-554-506-00 TOGGLE "BARS/WB"  
**S3** 1-554-507-00 TOGGLE "DISP. CHG"

**SW-30 BOARD**

1-617-358-11 PRINTED CIRCUIT BOARD "SW-30"

**S1** 1-553-739-00 PUSH "UP/ON"  
**S2** 1-553-739-00 PUSH "DOWN/OFF"  
**S3** 1-554-486-00 TOGGLE "AUTO B/W BALANCE"

Ref. No. Part No. Description

**SW-251 BOARD**

**DXC-3000: Ser. No. 14771 ~ 15450 (DXC-3000)**  
**15266 ~ 16485 (DXC-3000P)**

**C1** 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
**C2** 1-163-141-00 CERAMIC CHIP 0.001 5% 50V

**D1** 8-719-100-05 1S2837**IC1** 8-759-200-81 TC4053BF: TOSHIBA**SWB-13 BOARD**

1-617-359-11 PRINTED CIRCUIT BOARD "SWB-13"

**S1** 1-553-739-00 PUSH "VTR START"  
**S2** 1-570-857-11 SLIDE "ABL ON/OFF"

Ref. No. Part No. Description

## TG-18N/18P BOARD

A-7513-335-A MOUNTED CIRCUIT BOARD "TG-18N"  
Ser. No. 10001 ~ 10810 (DXC-3000)  
A-7513-335-B MOUNTED CIRCUIT BOARD "TG-18N"  
Ser. No. 10811 and higher (DXC-3000)  
10001 and higher (DXC-3000 PM)  
60001 and higher (DXC-3000 A)  
A-7513-336-A MOUNTED CIRCUIT BOARD "TG-18P"  
Ser. No. 10001 ~ 10440 (DXC-3000P)  
A-7513-336-B MOUNTED CIRCUIT BOARD "TG-18P"  
Ser. No. 10441 and higher (DXC-3000P)  
80001 and higher (DXC-3000AP)

C1 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C4 1-163-037-11 CERAMIC CHIP 0.002 10% 25V  
C5 1-124-140-00 ELECT 220 20% 6.3V  
C6 1-163-141-00 CERAMIC CHIP 0.001 5% 50V  
C7 1-123-611-00 ELECT 1 20% 50V

C8 1-124-465-00 ELECT 0.47 20% 50V  
C9 1-124-465-00 ELECT 0.47 20% 50V  
C10 1-124-465-00 ELECT 0.47 20% 50V  
C11 1-124-465-00 ELECT 0.47 20% 50V  
C12 1-124-462-00 ELECT 10 20% 16V

C13 1-124-141-00 ELECT 330 20% 10V  
C14 1-163-037-11 CERAMIC CHIP 0.022 10% 25V  
C15 1-124-462-00 ELECT 10 20% 16V  
C16 1-124-462-00 ELECT 10 20% 16V  
C17 1-124-462-00 ELECT 10 20% 16V

C20 1-131-347-00 TANTAL 1 20% 35V  
C22 1-124-462-00 ELECT 10 20% 16V  
C23 1-163-037-11 CERAMIC CHIP 0.022 10% 25V  
C24 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C25 1-163-117-00 CERAMIC CHIP 100PF 5% 50V

C28 1-163-037-11 CERAMIC CHIP 0.022 10% 25V  
C29 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C30 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C33 1-163-037-11 CERAMIC CHIP 0.022 10% 25V  
C34 1-163-117-00 CERAMIC CHIP 100PF 5% 50V

C35 1-163-117-00 CERAMIC CHIP 100PF 5% 50V  
C39 1-163-109-00 CERAMIC CHIP 47PF 5% 50V  
C40 1-163-113-00 CERAMIC CHIP 68PF 5% 50V  
C41 1-163-105-00 CERAMIC CHIP 33PF 5% 50V  
C42 1-124-234-00 ELECT 22 20% 16V

C43 1-163-037-11 CERAMIC CHIP 0.022 10% 25V  
C44 1-131-347-00 TANTAL 1 20% 35V  
C47 1-163-101-00 CERAMIC CHIP 22PF 5% 50V  
C49 1-163-037-11 CERAMIC CHIP 0.022 10% 25V  
C50 1-107-159-00 MICA 33PF 5% 500V  
Ser No. 10001 ~ 10810 (DXC-3000)  
10001 ~ 10440 (DXC-3000P)  
1-163-109-00 CERAMIC CHIP 47PF 5% 50V  
Ser. No. 10811 and higher (DXC-3000)  
10441 and higher (DXC-3000P)  
10001 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

C51 1-130-483-00 MYLAR 0.01 5% 50V

Ref. No. Part No. Description

CN1 1-564-003-00 RECEPTACLE, 4P MALE  
1-562-149-11 PLUG HOUSING 4P  
1-564-026-00 PLUG CONTACT  
CN2 1-564-008-00 RECEPTACLE, 9P MALE  
1-562-154-11 PLUG HOUSING 9P  
1-564-026-00 PLUG CONTACT  
CN3 1-564-015-00 RECEPTACLE, 5P MALE  
1-562-150-11 PLUG HOUSING 5P  
1-564-026-00 PLUG CONTACT  
CN4 1-564-019-11 RECEPTACLE, 9P MALE  
1-562-154-11 PLUG HOUSING 9P  
1-564-026-00 PLUG CONTACT  
CN5 1-564-003-00 RECEPTACLE, 4P MALE  
1-562-149-11 PLUG HOUSING 4P  
1-564-026-00 PLUG CONTACT  
CN6 1-564-008-00 RECEPTACLE, 9P MALE  
1-562-154-11 PLUG HOUSING 9P  
1-564-026-00 PLUG CONTACT

D1 8-719-100-03 1S2835  
D2 8-719-100-03 1S2835  
D3 8-719-100-03 1S2835  
D4 8-719-100-05 1S2837  
D5 8-719-100-05 1S2837

D6 8-719-100-05 1S2837  
D7 8-719-100-05 1S2837  
D9 8-719-100-05 1S2837  
D10 8-719-100-05 1S2837  
D11 8-719-100-05 1S2837

IC1 8-759-913-03 CX23047A: SONY  
Ser. No. 10001 ~ 11110 (DXC-3000)  
10001 ~ 10640 (DXC-3000P)  
8-759-922-28 CX23047B: SONY  
Ser. No. 11111 and higher (DXC-3000)  
10641 and higher (DXC-3000P)  
10001 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

IC3 8-752-018-00 CX20180: SONY  
IC4 8-759-000-26 MMH0026CP1: MOTOROLA  
IC5 8-759-000-26 MMH0026CP1: MOTOROLA  
IC6 8-759-000-26 MMH0026CP1: MOTOROLA

IC7 8-759-205-00 TC74HC14F: TOSHIBA  
IC8 8-752-001-10 CX20011: SONY  
IC9 8-759-204-98 TC74HC08F: TOSHIBA  
IC10 8-759-278-12 TA78L012AP: TOSHIBA

Ref. No. Part No. Description

Q1 8-729-100-76 2SA812

R24 1-214-583-00 METAL 12K 1% 1/8W  
R25 1-214-565-00 METAL 2.2K 1% 1/8W  
R26 1-214-561-00 METAL 1.5K 1% 1/8W

RV1 1-226-771-11 METAL 1K

Ref. No. Part No. Description

**YC-35 BOARD (DXC-3000A/AP only)**

A-7560-042-A MOUNTED CIRCUIT BOARD "YC-35"

C1 1-163-083-00 CERAMIC CHIP 1PF  $\pm$  0.25PF 50V  
C3 1-163-087-00 CERAMIC CHIP 4PF  $\pm$  0.25PF 50V  
C4 1-124-584-00 ELECT 100 20% 10V  
C5 1-124-225-00 ELECT 100 20% 6.3V  
C7 1-124-584-00 ELECT 100 20% 10V

C8 1-124-584-00 ELECT 100 20% 10V  
C10 1-124-234-00 ELECT 22 20% 16V  
C11 1-163-083-00 CERAMIC CHIP 1PF  $\pm$  0.25PF 50V  
C13 1-163-087-00 CERAMIC CHIP 4 PF  $\pm$  0.25PF 50V  
C14 1-124-584-00 ELECT 100 20% 10V  
C15 1-124-225-00 ELECT 100 20% 6.3V

L1 1-408-413-00 MICRO 22  
L2 1-408-413-00 MICRO 22  
L3 1-408-413-00 MICRO 22  
L4 1-408-413-00 MICRO 22

Q1 8-729-175-73 2SC2757  
Q2 8-729-175-73 2SC2757  
Q3 8-729-122-63 2SA1226  
Q4 8-729-100-66 2SC1623  
Q5 8-729-100-76 2SA812

Q6 8-729-100-66 2SC1623  
Q7 8-729-100-76 2SA812  
Q8 8-729-175-73 2SC2757  
Q9 8-729-175-73 2SC2757  
Q10 8-729-122-63 2SA1226

Q11 8-729-100-66 2SC1623  
Q12 8-729-100-76 2SA812  
Q13 8-729-100-66 2SC1623  
Q14 8-729-100-76 2SA812

RV1 1-226-771-11 METAL 1K  
RV2 1-230-521-11 METAL 2.2K

S1 1-571-098-11 SLIDE

Ref. No. Part No. Description

## FRAME

A-7550-031-B MOUNTED CIRCUIT BOARD, LENS

A-7575-089-A FRONT UNIT ASSY (UC, BR)

A-7575-090-A FRONT UNIT ASSY (EK)

1-413-163-21 POWER UNIT

1-617-361-11 PRINTED CIRCUIT BOARD "CN-111"

C101 1-130-483-00 MYLAR 0.01 50V (UC, BR)

C102 1-130-483-00 MYLAR 0.01 50V (UC, BR)

CN101 1-561-233-21 RECEPTACLE, 6P FEMALE "LENS"

CN102 1-561-320-00 RECEPTACLE, 8P FEMALE "VF"

CN103 1-506-999-11 RECEPTACLE (WITH SW), 3P  
FEMALE "MIC IN"

CN104 1-561-781-21 RECEPTACLE, BNC "VIDEO OUT"

CN105 1-561-781-21 RECEPTACLE, BNC "GEN LOCK IN"

CN106 1-508-942-00 RECEPTACLE, 14P MALE  
"VTR/CCU/CMA"CN107 1-560-999-11 RECEPTACLE (WITH DC SW), 4P  
MALE "DC IN"D101 8-719-100-65 RD12EB1  
Ser. No. 10001 ~ 11110 (UC)  
10001 ~ 10640 (EK)

J101 1-507-682-00 "EAR"

L101 1-408-105-00 MICRO 1  
Ser. No. 11111 and higher (DXC-3000)  
10641 and higher (DXC-3000P)  
10001 and higher (DXC-3000PM)  
60001 and higher (DXC-3000A)  
80001 and higher (DXC-3000AP)

Ref. No. Part No. Description

Q101 8-729-315-63 2S8856

R101 1-247-826-00 CARBON 620 5% 1/6W

S101 1-570-490-11 TOGGLE "POWER"

S102 1-552-665-00 MICRO

MIC 101 8-814-189-31 MICROPHONE, BUILT-IN C-1007A



## 1.5-INCH

## ELECTRONIC VIEWFINDER

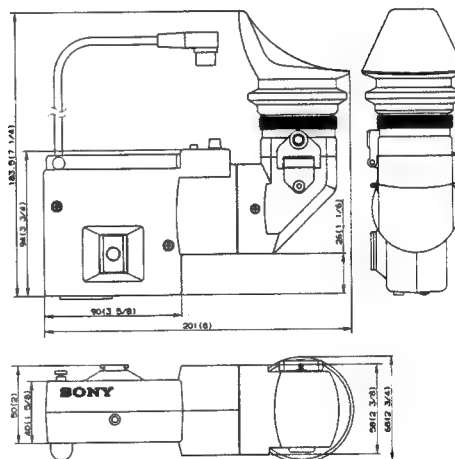


### SPECIFICATION

Picture tube	1.5-inch monochrome
Indicators	REC/TALLY indicator, BATT indicator, GAIN UP indicator, LOW LIGHT indicator
Signal system	EIA standards
Scanning system	525 lines, 2 : 1 interlace
Resolution	400 lines
Power requirements	12 V dc
Power consumption	2.3W
Weight	Approx. 600 g (1 lb 4 oz)

### Dimensions

Unit : mm  
(inches)



# SONY®

## SERVICE MANUAL

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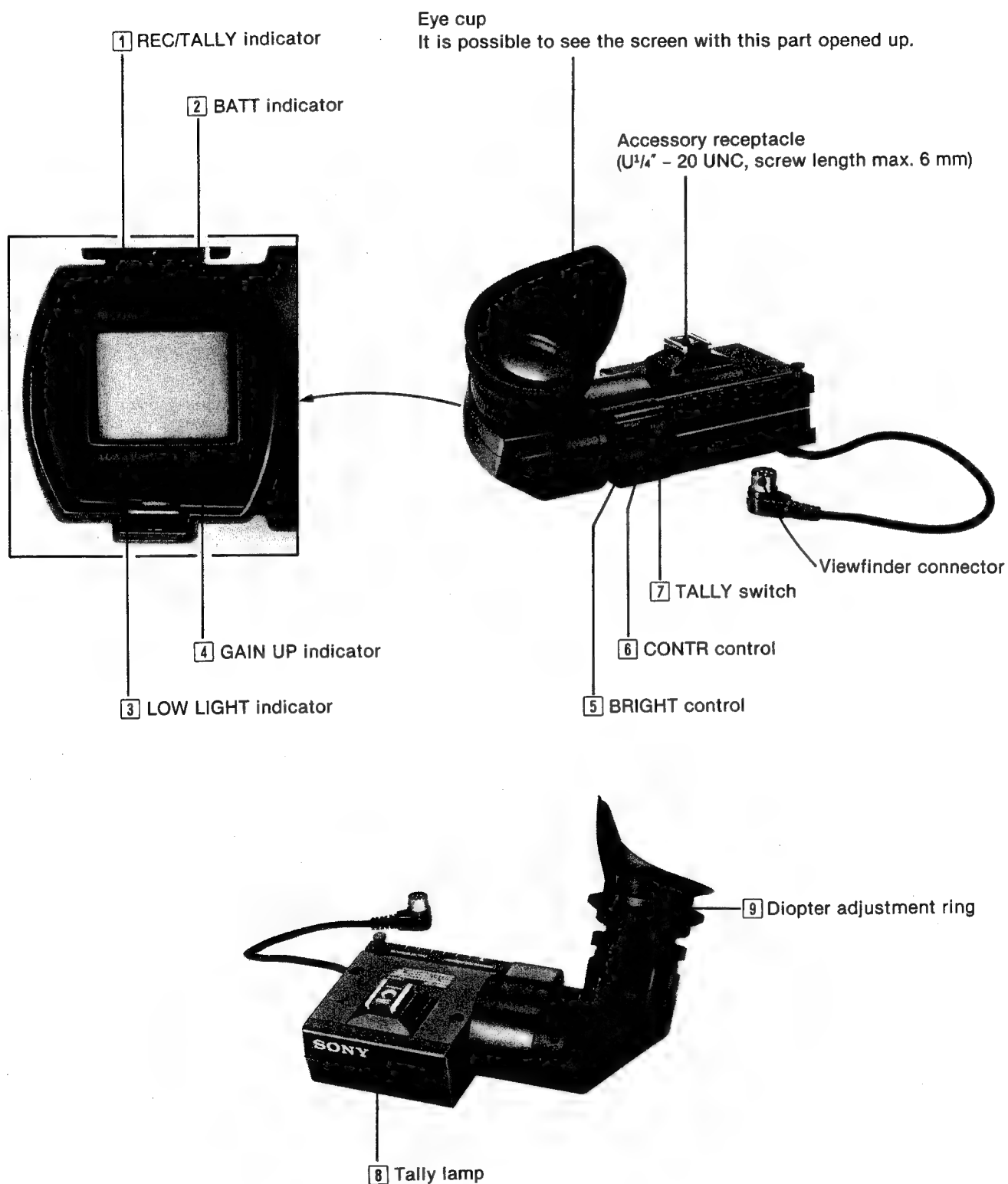
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## SECTION 1

### GENERAL DESCRIPTION

#### 1-1. LOCATION AND FUNCTION OF CONTROLS



**[1] REC/TALLY indicator**

Illuminates during recording with one camera, and illuminates when the camera's picture is selected by a control console, a video switcher, etc., connected to the CCU-M3/M3P camera control unit which is connected to the camera.

The indicator blinks in accordance with the warning system of the VTR.

**[2] BATT (battery) indicator**

Starts blinking several minutes before the battery of the DC-8 battery adaptor, the VTR or the CCU-M3/M3P is discharged to a level at which it cannot power the VTR or the CCU (about 11 V), and illuminates steadily when the battery has discharged to that level.

**[3] LOW LIGHT indicator**

Lights up when the video output level from the camera is too low due to insufficient lighting. (Even if the indicator is illuminated, the camera will operate, but the recording will be made at a low video output level.)

**[4] GAIN UP indicator**

Lights up when the GAIN selector is set to 9 dB or 18 dB.

**[5] BRIGHT (brightness) control**

Adjusts the brightness of the picture on the viewfinder screen. To obtain a brighter picture, turn this control clockwise.

**Note**

This control does not affect the output signal of the camera.

**[6] CONTR (contrast) control**

Adjusts the contrast of the picture on the viewfinder screen.

**Note**

This control does not affect the output signal of the camera.

**[7] TALLY switch**

The tally lamp [8] can be activated or deactivated if necessary, by setting this switch to ON or OFF.

**[8] Tally lamp**

When the TALLY switch [7] is set to ON, this lamp operates the same as the REC/TALLY indicator [1].

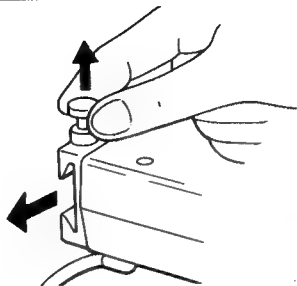
**[9] Diopter adjustment ring**

Adjusts the diopter.

## 1-2. SET-UP

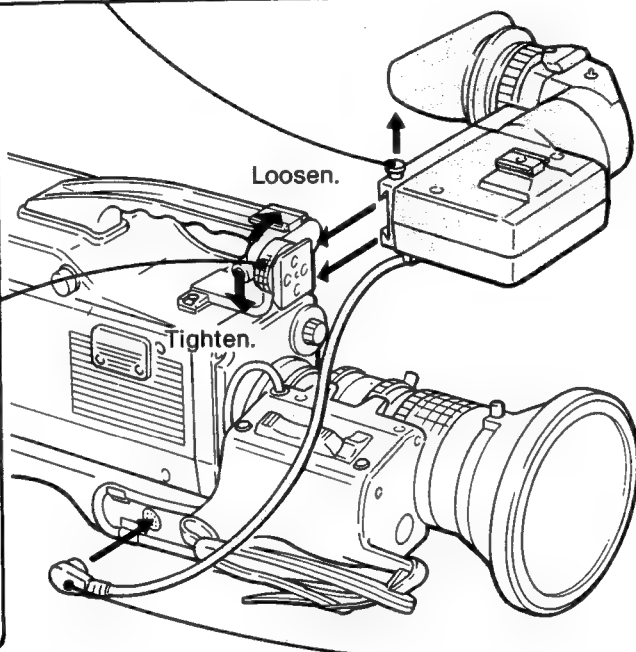
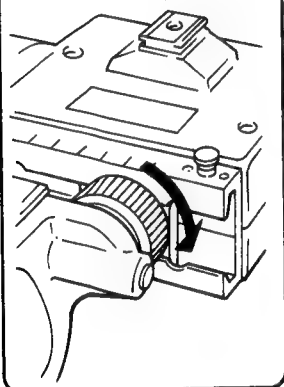
## VIEWFINDER ATTACHMENT

- 1** Loosen the lock ring, and align and slide the viewfinder into the mount, while pulling the pin up.



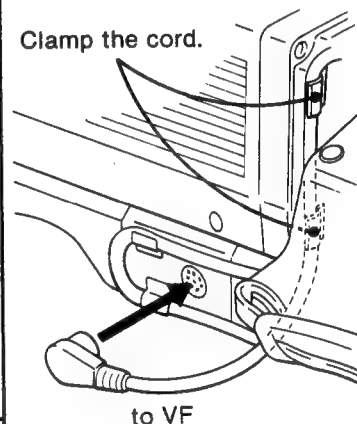
To detach the viewfinder, loosen the lock ring, and slide the viewfinder while pulling the pin up.

- 2** Tighten the lock ring.



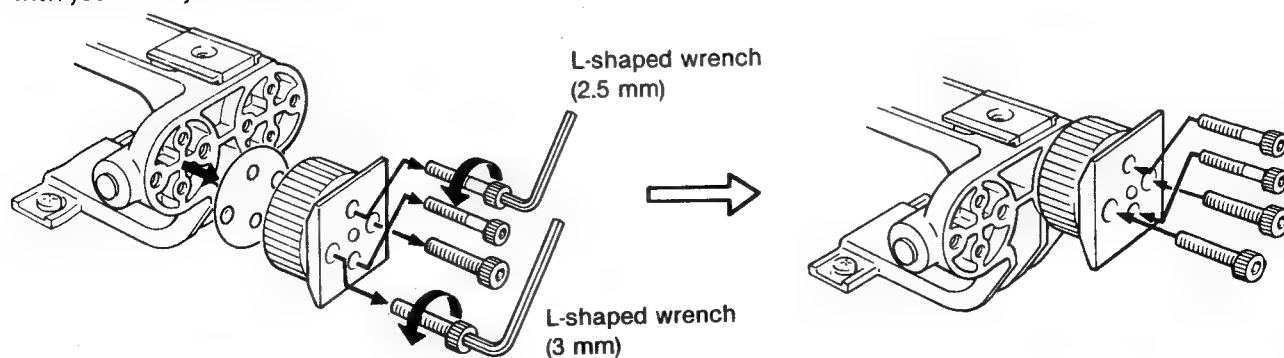
- 3**

Clamp the cord.



### The position of the viewfinder mount

Change its position if you wish to use the viewfinder with your left eye.



### Note

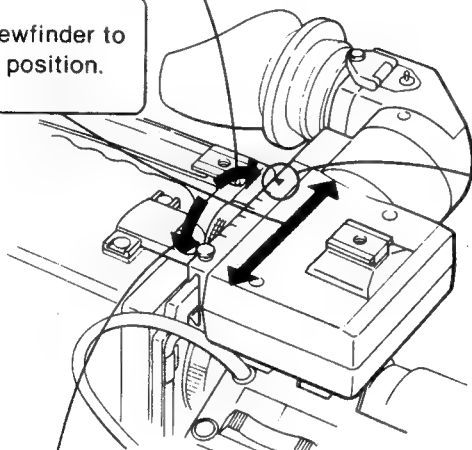
If the viewfinder is mounted in a position other than the original one, the camera cannot be stored in the carrying case. In such a case, remove the viewfinder before storing the camera in the case.

**Adjustment of the horizontal position :**

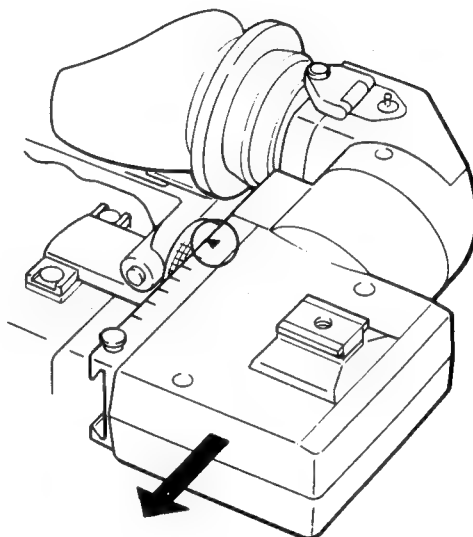
**1** Loosen the lock ring.

**2** Slide the viewfinder to the desired position.

**3** Tighten the ring.



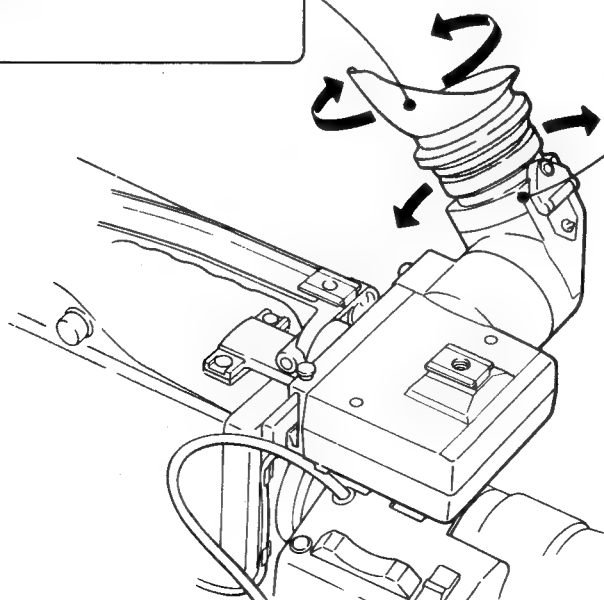
To insert the camera into the carrying case with the viewfinder attached to it, slide the viewfinder to the "▼" mark and tighten the lock ring.



**The position of the eye cup :**

**2** Rotate the eye cup to fit the eye used for viewing.

**1** Move the eye cup up and down for comfortable use.

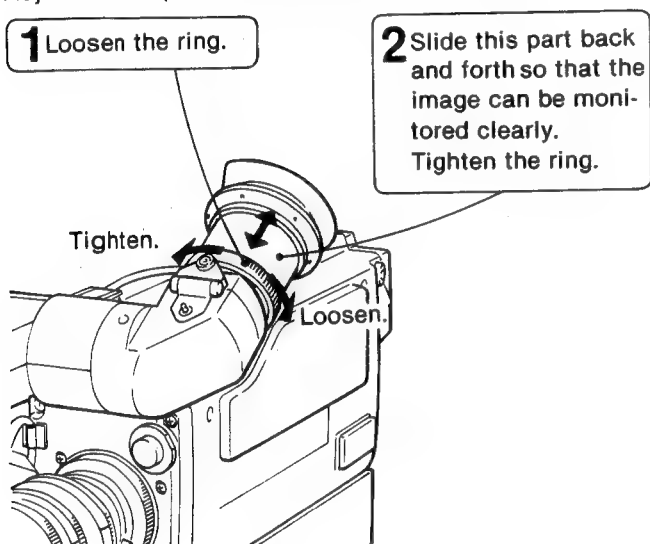


## VIEWFINDER ADJUSTMENT

After adjusting the viewfinder and the eye cup, make the following adjustment so that the viewfinder screen can be seen comfortably.

**Diopter adjustment** (adjustable range: from  $-1\text{ D}$  to  $-3\text{ D}$ )  
 Since each operator's eyesight varies, it is necessary to adjust the diopter each time the viewfinder is used by a new operator.

Adjust the diopter after focusing as follows.



### Viewfinder's contrast and brightness adjustments

- 1 Set the BARS/WB selector to BARS.
- 2 Adjust the contrast and brightness with the CONTR and BRIGHT controls, referring to the color bar signals on the viewfinder screen.
- 3 Set the BARS/WB selector to AUTO after adjustment.

#### Note

The CONTR and BRIGHT controls do not affect the output signals of the camera.

## VIDEO MONITOR ADJUSTMENT

When a color video monitor is being used to monitor a picture, adjust the color of the monitor as follows.

- 1 Set the BARS/WB selector to BARS.
- 2 Adjust the color and hue controls on the monitor while viewing the color bars on the monitor screen.
- 3 Set the BARS/WB selector to AUTO.

## SECTION 2

### ALIGNMENT

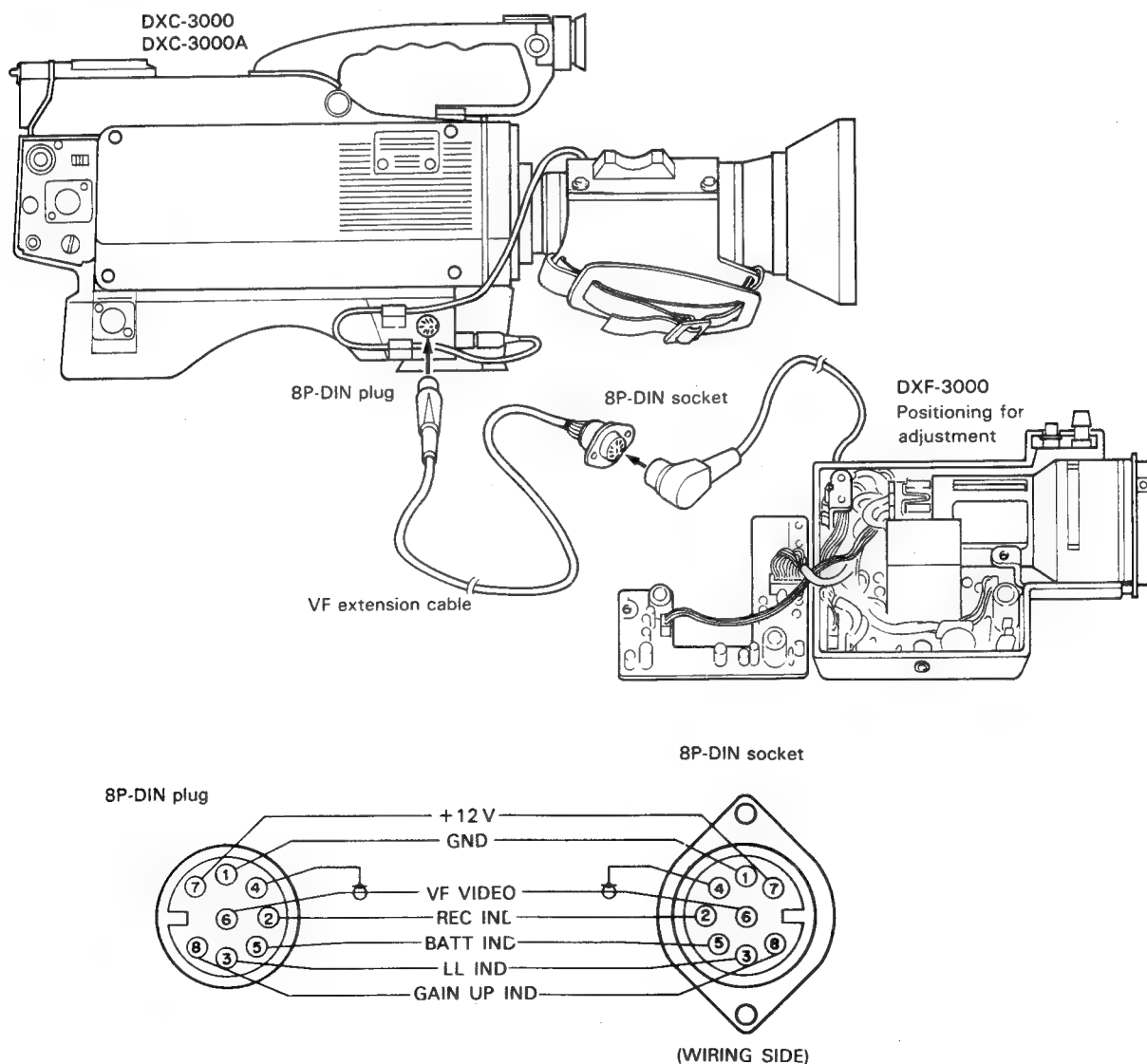
#### 2-1. PREPARATION

##### 2-1-1. Equipment Required

1. Pattern Box PTB-100  
Sony part number J-6020-490-A  
or Pattern Box PTB-500  
Sony part number J-6029-140-A
2. Resolution chart: Sony part number J-6021-870-A
3. Video Camera DXC-3000/3000A
4. AC Adapter CMA-7 or CMA-8
5. Camera Cable CCQ-2ARS or CCQ-2BRS
6. Black and White monitor PVM-91CE or equivalent
7. Digital multimeter
8. Dualtrace oscilloscope
9. VF extension cable: See 2-1-2.

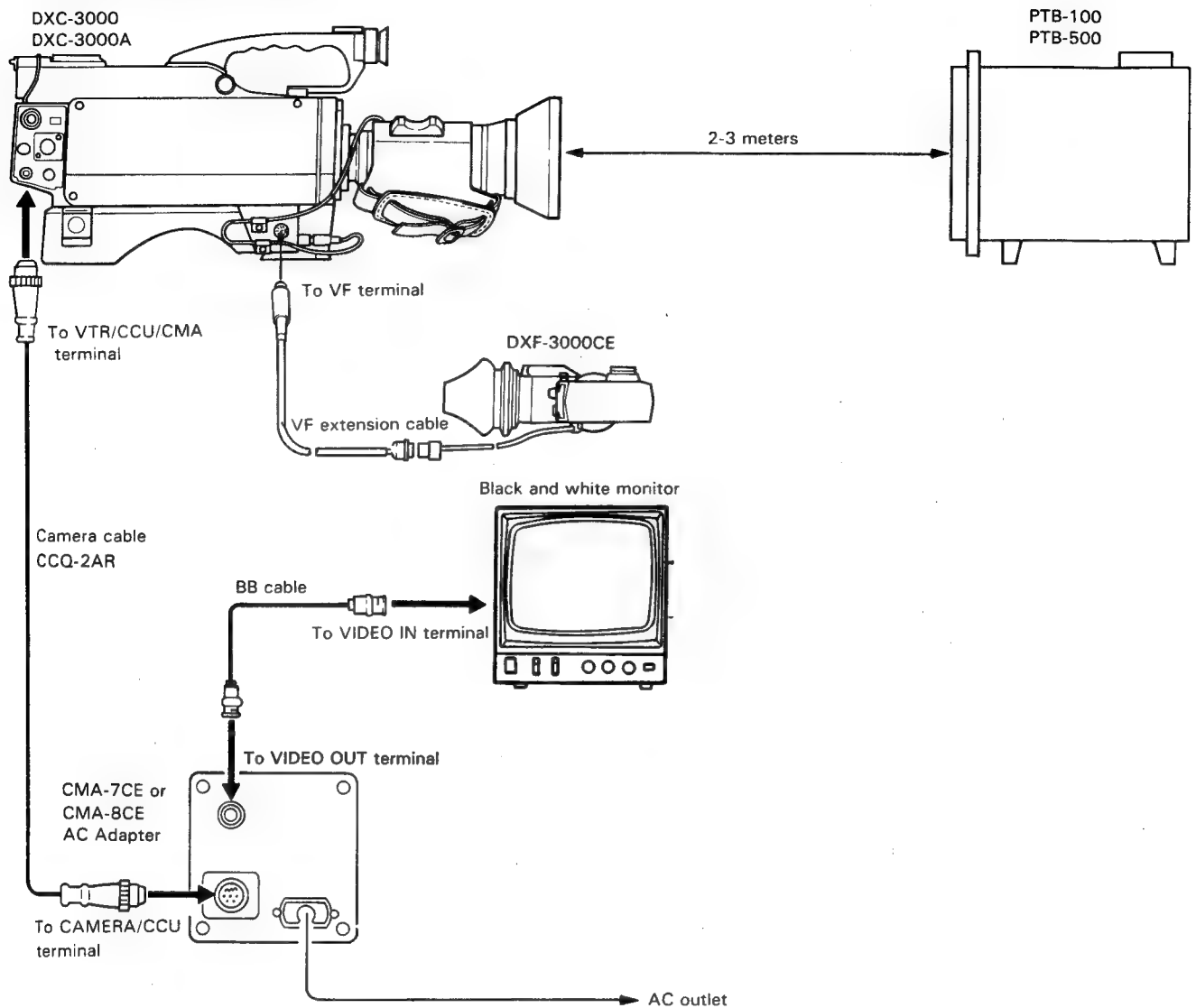
##### 2-1-2. How to make the VF extension cable

- 8P-DIN plug (male) ..... Sony part number  
1-506-173-00
- 8P-DIN socket (female) ..... Sony part number  
1-561-320-00





## 2-2. CONNECTION AND INITIAL SETTING



### 2-2-1. Initial settings

#### 1. Set the camera switches and controls as follows.

##### DXC-3000/3000A Video Camera

BARS WB switch: AUTO  
GAIN switch: 0 dB  
PRF HEAT switch: ON

##### DXF-3000CE Viewfinder

CONTRAST control: Fully clockwise  
BRIGHTNESS control: Center

##### Lens

AUTO/MANUAL switch: AUTO

#### 2. Preparation for picture

- (1) Adjust the zoom control so that the resolution chart frame touches the underscanned picture frame on the monitor.
- (2) Adjust the iris control for the best resolution of the monitor.

## 2-3. VF SYSTEM ADJUSTMENT

### 2-3-1. 9V Adjustment

Equipment: DC voltmeter  
 Test point: TP1 (GND:E1)/VF-18A board  
 Adjustment point: Ⓢ RV1/VF-18A board  
 Specification:  $9.0 \pm 0.05$  VDC

### 2-3-2. Focus Adjustment

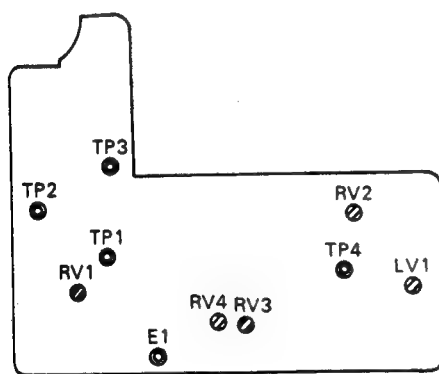
Object: Resolution pattern

Preparations: 1. CONTRAST → Fully clockwise  
 2. BRIGHTNESS → Center  
 3. Adjust the RV4 (BRIGHT)/VF-18A board so that the gradation of the resolution pattern is seen clearly.

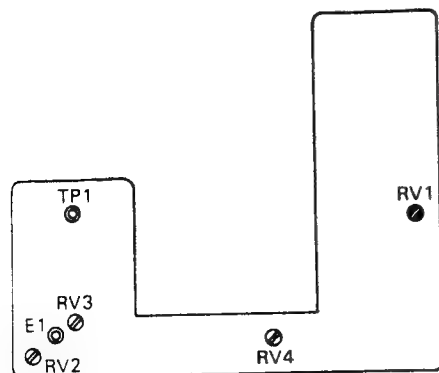
Adjustment point: Ⓢ RV3 on the VF-18A board  
 Adjustment: Adjust for the best resolution of the viewfinder.

Specifications:	Center	Circumference
Horizontal	More than 420	More than 350
Vertical	More than 350	More than 300

Note: If this adjustment is performed, adjust 2-3-6. V.H deflection size adjustment.



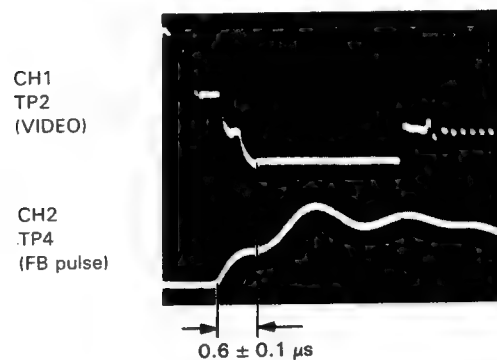
VF-18A board (component side)



VF-23 board (component side)

### 2-3-3. Horizontal hold adjustment

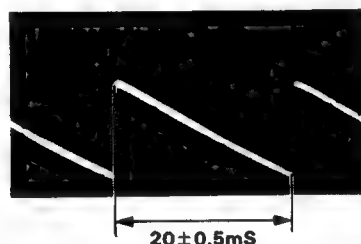
Equipment: Dual trace oscilloscope  
 Test point: CH-1 TP2 (GND:E1) on the VF-18A board  
 CH-2 TP4 (GND:chassis) on the VF-18A board  
 Mode: ALT  
 Trigger: TP4/VF-18A board  
 Adjustment point: Ⓢ RV1/VF-23 board  
 Specification:  $0.6 \pm 0.1$   $\mu$ S



### 2-3-4. Vertical hold adjustment

Preparation: Set the PREHEAT switch on the DXC-3000/3000A to OFF.

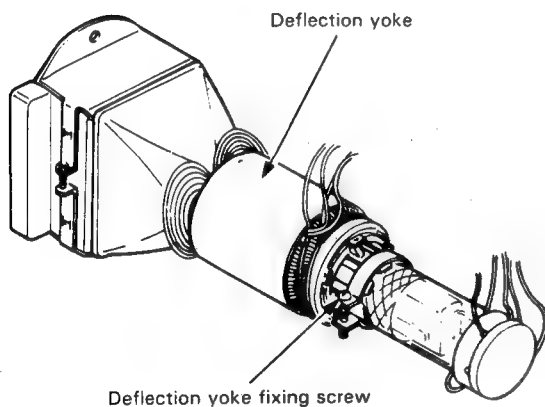
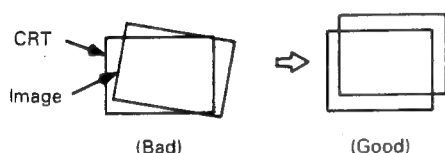
Equipment: Oscilloscope  
 Test point: TP1/VF-23 board  
 Trigger: CN1-1 pin/VF-23 board  
 Adjustment point: Ⓢ RV4/VF-23 board  
 Specification:  $20 \pm 0.5$  mS



### 2-3-5. Deflection yoke tilt adjustment

Note: 2-3-6. V.H deflection size adjustment, 2-3-7. Centering adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

- Adjustment: 1. Loosen the deflection yoke fixing screw, and turn the deflection yoke until any inclination on the viewfinder picture is eliminated.
2. After this adjustment is completed, tighten the fixing screw, pushing the deflection yoke toward the CRT.



### 2-3-6. V.H deflection size adjustment

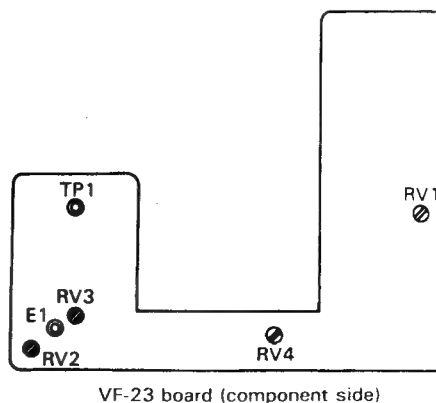
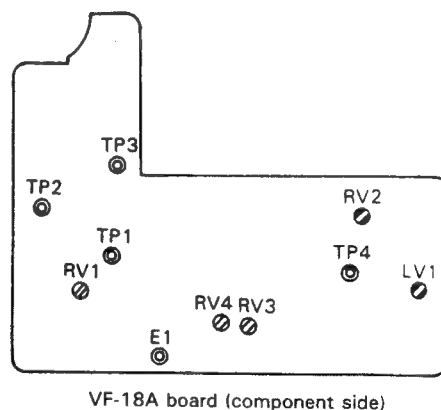
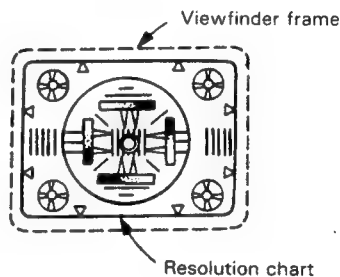
Note: 2-3-5. Deflection yoke tilt adjustment, 2-3-7. Centering adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Object: Resolution chart

Preparation: 1. Set the external BRIGHT control at the center.

Adjust the external CONTR control so that the second gradation of the resolution chart is disappeared.

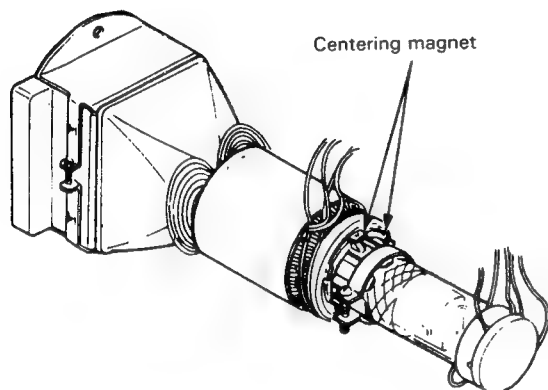
- Adjustment: 1. Adjust RV2 (V SIZE) and RV3 (V LIN)/VF-23 board so that the picture's height becomes  $97 \pm 1\%$  ( $3 \pm 1\%$  reduced scan) of viewfinder screen's height with best longitudinal balance of the circle.
2. Adjust RV2 (H SIZE) and LV1 (H LIN)/VF-18A board so that the picture's width becomes  $98 \pm 1\%$  ( $2 \pm 1\%$  reduced scan) of viewfinder screen's width with best lateral balance of the circle.



### 2-3-7. Centering adjustment

Note: 2-3-5. Deflection yoke tilt adjustment, 2-3-6. V.H deflection size adjustment and this adjustment affect each other, so carry out these adjustments alternately several times.

Adjustment: Turn the two centering magnets until the Hand V centerings are obtained.



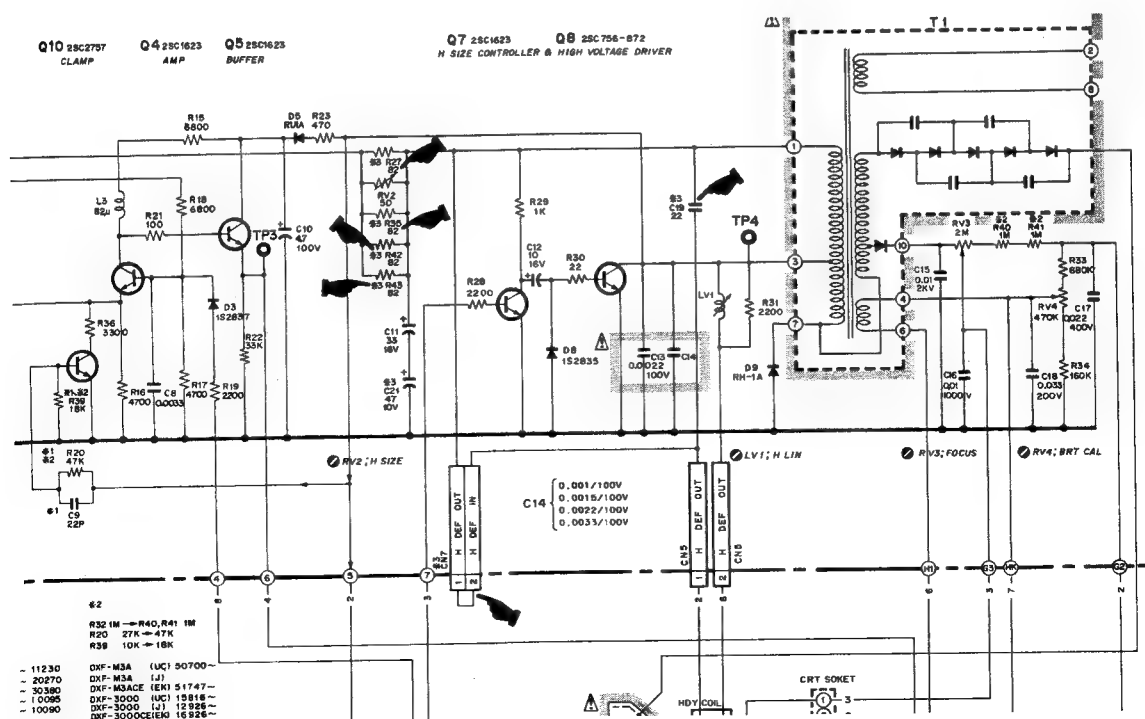
Note: When the Hand V centering are not obtained by turning the two centering magnets after replacing the new CRT, carry out as follow;

- Serial No. Up to 17460 (UC),  
Up to 17455 (EK)

1. Replace the following components:  
R27, R35 120 → 82
2. Mount 22 ohm resistor (R42 and R43) at former location of R27 and R35.
3. Cut trace between T1-1 pin and connector CN3-1 pin, and mount 22  $\mu$ F (C19) at cutting trace.

- Serial No. 17461 and higher (UC)  
17456 and higher (EK)

1. Disconnect the short plug of the connector CN7 on the VF-18A board.



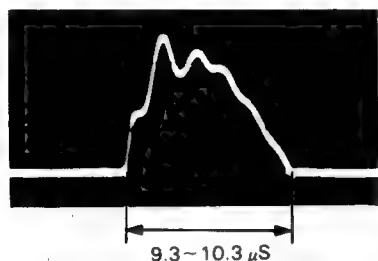
## 2-3-8. FB pulse wide adjustment

Equipment: Oscilloscope

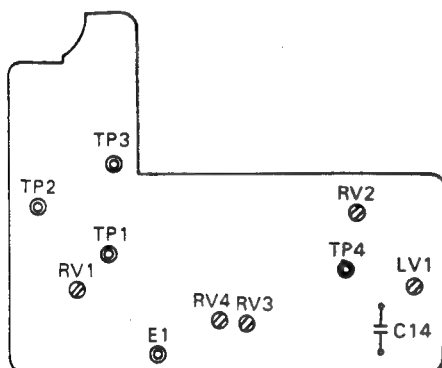
Test point TP4 (GND:E1)/VF-18A board

Trigger: TP4/VF-18A board

Specification:  $9.3 \mu\text{S}$  to  $10.3 \mu\text{S}$



Adjustment: C14/VF-18A board  $0.001 \mu\text{F}$   $0.0022 \mu\text{F}$   $0.0033 \mu\text{F}$  Select one of these for the specification.



VF-18A board (component side)

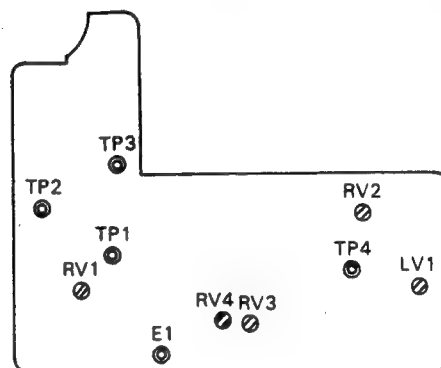
## 2-3-9. Bright calibration adjustment

Object: Resolution pattern

Preparation: Turn RV1/SW-91 board (BRIGHTNESS) → fully counterclockwise.

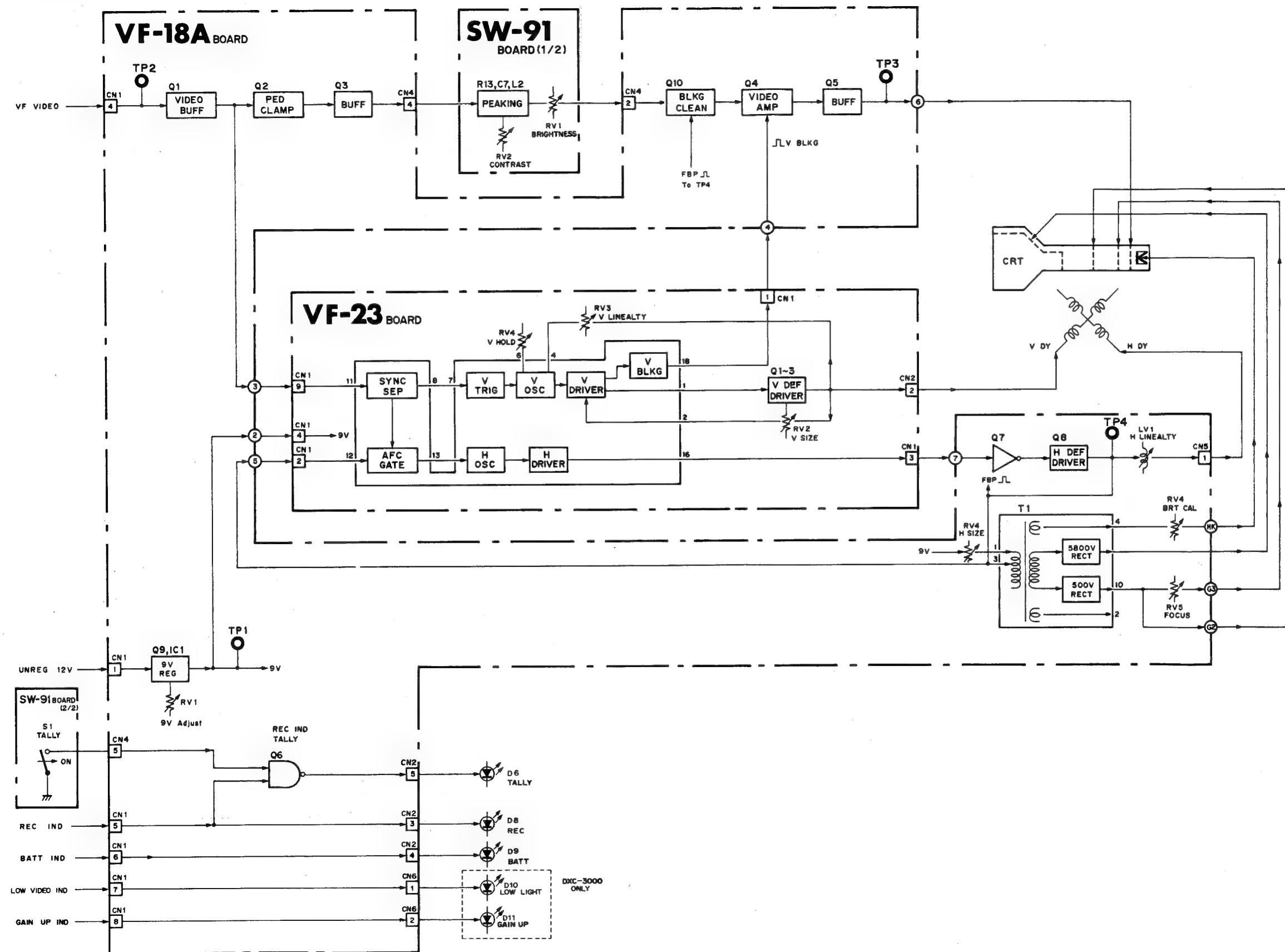
Turn RV2/SW-91 (CONTRAST) → fully clockwise.

Adjustment: Adjust the picture by turning RV4/VF-18A counterclockwise from the rightmost position so that the black and white gradation scale is black up to the third step and the fourth step is recognizable.



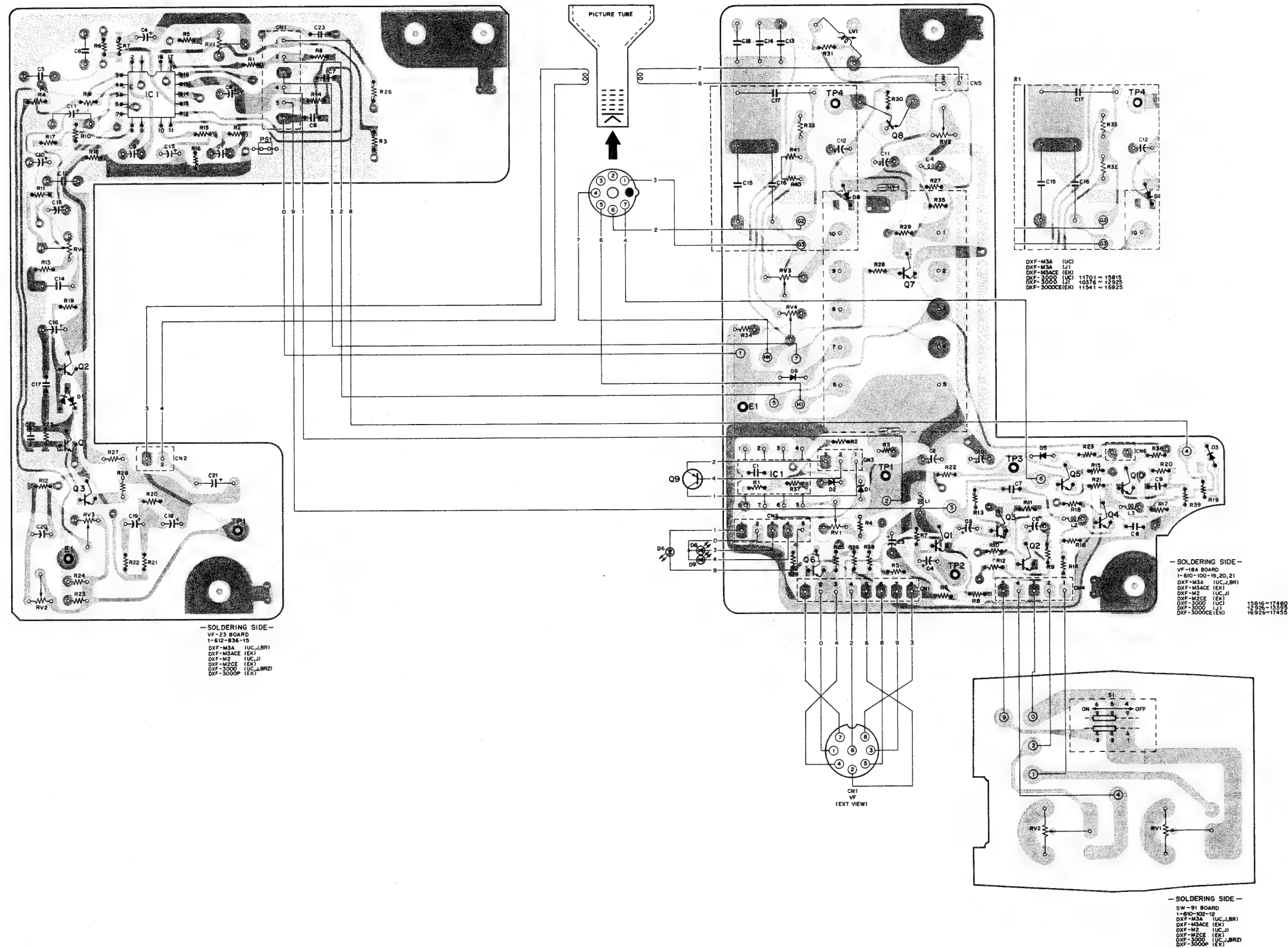
VF-18A board (component side)

### 3-1. BLOCK DIAGRAM



Ser. No. 10001~10375 (J)  
10001~11700 (UC)  
10001~11540 (EK)

Ser. No. 10376 ~ 13395 (J)  
 11701 ~ 17460 (UC)  
 11541 ~ 17455 (EK)  
 10001 ~ (BRZ)





Ser. No. 13396 ~	(J)
17461 ~	(UC)
17456 ~	(EK)

[illegible]

# SECTION 4

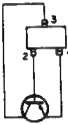
## 第 4 章

### SEMICONDUCTOR PIN ASSIGNMENTS 半导体引脚及内部设置

The circuit diagram of IC is obtained from the IC data book published by the manufacturer.

< Tr >

TOP VIEW (SCALE 4/1) 2SA812

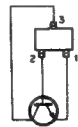


2SB856



TOP VIEW (SCALE 4/1)

2SC1623  
2SC2757



BOTTOM VIEW

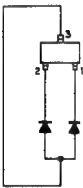


2SC756

< Di >

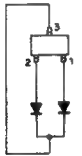
TOP VIEW (SCALE 4/1)

1S2835



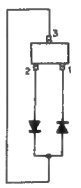
TOP VIEW (SCALE 4/1)

1S2837



TOP VIEW (SCALE 4/1)

1SS123



EBR5504S : RED



RH1  
RH1A



RD ? FEB

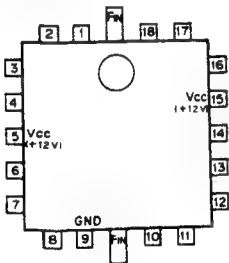


TLO102A : ORANGE

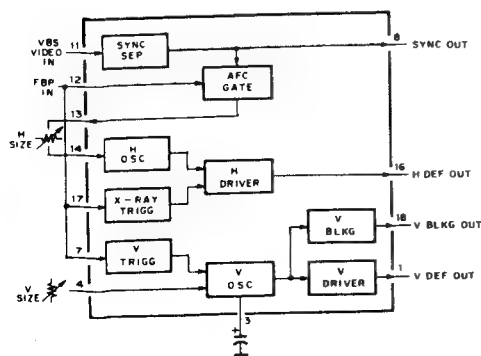
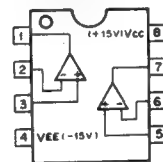


< IC >

HA11423MP (HITACHI) FLAT PACKAGE  
TV H/V SYNC SIGNAL PROCESSOR  
— TOP VIEW —



μPC4558C (NEC)  
OPERATIONAL AMPLIFIER  
— TOP VIEW —



SECTION 5 第5章  
SPARE PARTS 备件

5-1. PARTS INFORMATION

1. Safety Related Component Warning

Components identified by shading marked with  $\Delta$  on the schematic diagrams, exploded views and electrical spare parts list are critical to safe operation. Replace these components with Sony parts whose parts numbers appear as shown in this manual or in service bulletins and service manual supplements published by Sony.

2. Replacement Parts supplied from Sony Parts Center will sometimes have different shape and outside view from the parts which actually in use. This is due to "accommodating the improved parts and/or engineering changes" or "standardization of genuine parts."

- This manual's exploded views and electrical spare parts lists are indicating the parts numbers of "the standardized genuine parts at present".
- Regarding engineering parts changes in our engineering department, refer Sony service bulletins and service manual supplements.

3. Printed Components in Bold-Face type on the exploded views and electrical spare parts list are normally stocked for replacement purposes. The remaining parts are not normally required for routine service work. Orders for parts not shown in Bold-Face type will be processed, but allow for additional delivery time.

4. Item with no part number and/or no description are not stocked because they are seldom required for routine service.

5. Abbreviation

REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION	REF. NO.	DESCRIPTION
C	CAPACITOR	IC	IC	R	RESISTOR
CN	CONNECTOR	L	INDUCTOR	RV	VARIABLE RESISTOR
D	DIODE	LV	VARIABLE INDUCTOR	S	SWITCH
HT		Q	TRANSISTOR	T	TRANSFORMER

6. Screws

- All the screws used in this machine are the TOTSU type unless otherwise noted. The screws are interchangeable with the Phillips type (  $\oplus$  ) and slotted type (  $\ominus$  ) screws.

5-1. 零部件说明

1. 有关组件的注意事项

在设计图上以黑点和 $\Delta$ 标记来表示组件，零部件的分解配列图以及电子备件表均是按照在正常使用条件下而设定的。请参考本册或其它Sony公司发行的维修手册上注明的备件号码交换组件。

2. 由SONY公司备件中心提供的替换零部件，其形状和外表有时会 and 已使用的不同，这是因为“零部件的改良或设计更改”，和“零部件标准化”之缘故。

- 本册所记载的零部件分解配列图以及电子零部件表内包括“现已使用的标准零部件”之号码。

- 有关在技术方面的零部件技术改良，请参照SONY公司的维修手册或资料。

3. 在零部件分解配列图以及电子零部件表里用粗文字表示的组件是意味着有库存，由细文字表示的其他零部件则由于在日常维修中，交换率较少故交货期延长。

4. 没有记载号码和名称的零部件则意味着交换率极低并无库存。

SCREWS

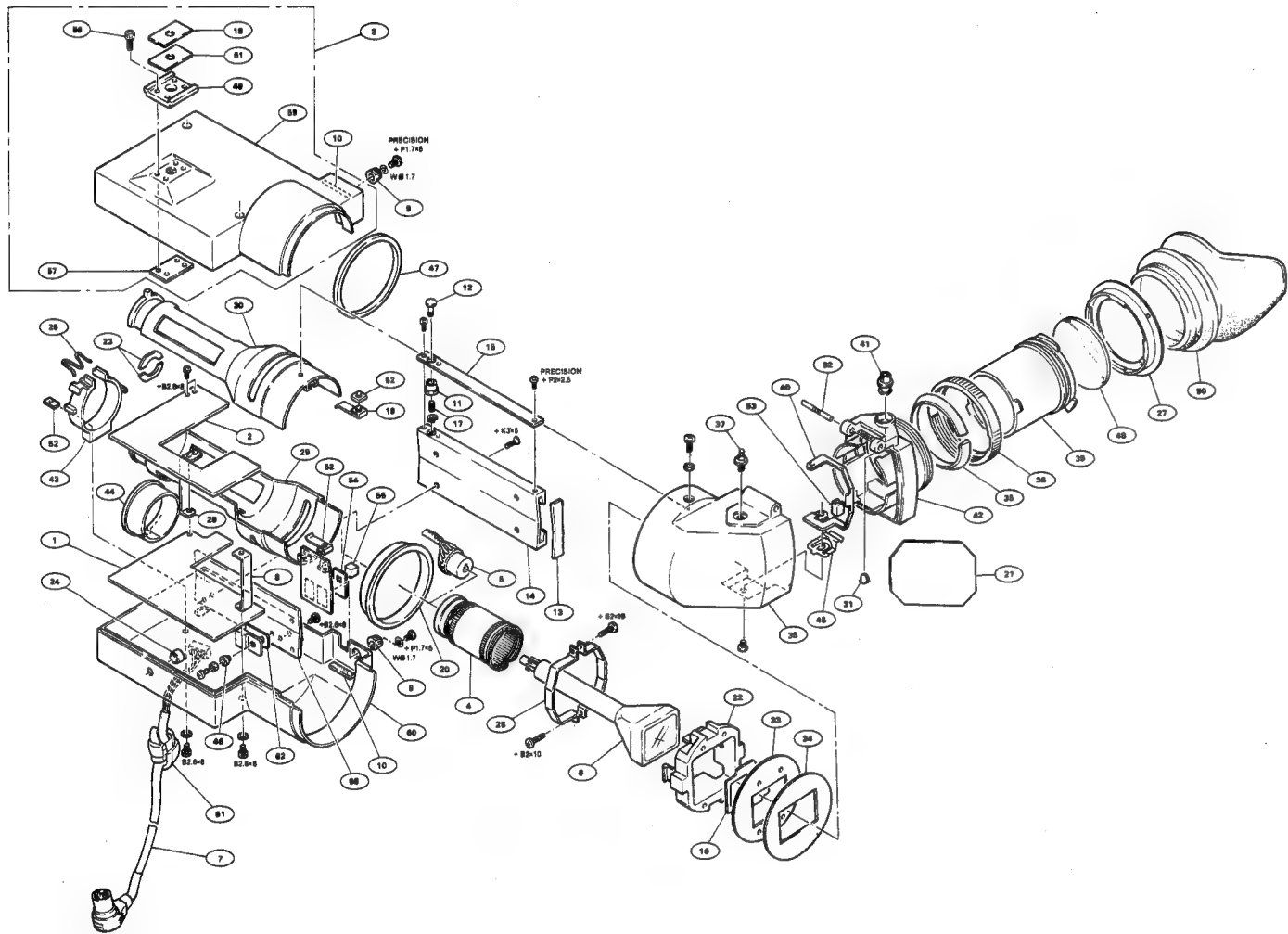
螺钉

PRECISION +P Bzn-N	
7-627-□□□-□□	
SIZE	Parts No.
1.7 x 1.6	552-18
x 1.8	—
x 2	552-28
x 2.2	—
x 2.5	552-08
x 2.8	—
x 3	552-38
x 3.5	552-78
x 4	552-48
x 4.5	—
x 5	552-58
x 5.5	—
x 6	—
2 x 1.8	554-38
x 2	553-18
x 2.2	—
x 2.5	553-28
x 2.8	554-58
x 3	553-38
x 3.5	554-18
x 4	553-48
x 4.5	553-58
x 5	—
x 5.5	—
x 6	553-68
x 7	553-88
x 8	553-98
x 10	553-78
2.6 x 2.8	556-08
x 3	—
x 3.5	556-28
x 4	556-38
x 4.5	556-48
x 5	556-58
x 5.5	—
x 6	556-78
x 7	—
x 8	—
x 9	—
x 10	—

+B Cr-N	
7-621-□□□-□□	
SIZE	Parts No.
2 x 3	772-08
x 4	772-18
x 5	771-06
x 6	772-38
x 8	772-48
x 10	772-58
x 12	772-68
x 14	772-78
x 16	772-88
x 20	—
2.6 x 3	775-08
x 4	773-86
x 5	770-87
x 6	770-67
x 8	770-99
x 10	773-87
x 12	775-68
x 14	775-78
x 16	775-88
x 20	773-91

+B Bzn-N	
7-621-□□□-□□	
SIZE	Parts No.
2 x 3	772-00
x 4	772-10
x 5	772-20
x 6	772-30
x 8	772-40
x 10	772-50
x 12	772-60
x 14	772-70
x 16	772-80
x 20	—
2.6 x 3	775-00
x 4	775-10
x 5	775-20
x 6	773-95
x 8	775-40
x 10	775-50
x 12	775-60
x 14	775-70
x 16	775-80
x 20	775-90

5-2. EXPLODED VIEW  
5-2. 零部件分解配列图



No.	Part No.	Description	No.	Part No.	Description
A 1	A-7513-073-A	MOUNTED CIRCUIT BOARD "VF-18A" (UC, J)	41	2-381-472-02	STOPPER
	A-7513-074-A	MOUNTED CIRCUIT BOARD "VF-18A" (EK)	42	2-381-473-02	LID
			43	2-381-476-01	HOLDER(B), CRT CASE
A 2	A-7513-075-A	MOUNTED CIRCUIT BOARD "VF-23"	44	2-381-477-01	RING(C)
			45	2-381-478-02	CLAW, LOCK
3	X-3680-622-2	COVER (UPPER), VF	46	2-832-007-00	BUSHING (K), INSULATING
4	1-451-233-00	DEFLECTION YOKE	47	3-561-892-00	BELT, COUNTER
5	1-526-540-00	SOCKET, PICTURE TUBE	48	3-657-626-00	LOUPE, FINDER
A 6	1-546-043-21	PICTURE TUBE 40LB4	49	3-657-700-00	BRACKET, ACCESSORY
7	1-556-889-41	CORD (WITH DIN PLUG) 8P	50	3-657-771-02	EYECUP (2)
8	2-277-452-00	BRACKET (B), PC BOARD	51	3-672-213-00	SHEET, ADHESIVE
9	2-277-453-00	KNOB, CONTROL	52	3-673-015-00	PLATE, NUT(M2.6)
10	2-277-454-00	CUSHION, SWITCH	53	3-678-515-11	EDGING, RUBBER
11	2-277-456-00	COLLAR, STOPPER	54	3-680-604-01	PLATE, BLIND
12	2-277-457-00	KNOB, CONTROL	55	3-680-605-00	CAP, SLIDE
13	2-277-458-00	RUBBER, STOPPER	56	3-686-434-01	HEXAGON SET SCREW M2 x 8
14	2-277-459-03	GUIDE, VF SLIDE	57	3-688-709-01	NUT, PLATE, SHOE
15	2-277-463-01	LABEL, SLIDE BLOCK	58	3-688-718-02	NUT, PLATE, CASE
16	2-277-464-00	ILLUMINATOR	59	3-688-719-01	COVER(UPPER), VF
17	2-277-466-01	SPRING, COMPRESSION	60	3-688-720-01	COVER, (LOWER), VF
18	2-277-468-01	PLATE, ORNAMENTAL, CAMERA, SHOE	61	3-703-001-00	BUSHING, CORD
19	2-277-469-01	TERMINAL, VF GROUND	62	3-703-037-00	INSULATOR, T-220
20	2-381-409-03	RING, SLEEVE			
21	2-381-411-00	MIRROR			
22	2-381-419-00	HOLDER, CRT			
23	2-381-420-00	RETAINER, CRT			
24	2-381-421-00	HOLDER, LED			
25	2-381-423-00	BAND, CRT			
26	2-381-424-11	SPRING			
27	2-381-426-01	RING, LENS			
28	2-381-427-00	STOPPER, PC BORAD			
29	2-381-428-06	CASE(REAR)(1), CRT			
30	2-381-429-06	CASE(REAR)(2), CRT			
31	2-381-461-02	PIN, BLIND			
32	2-381-462-01	PIN			
33	2-381-463-01	SHEET, ADHESIVE, LABEL			
34	2-381-465-01	PLATE, ORNAMENTAL, CRT			
35	2-381-466-01	RING, RETANER			
36	2-381-467-01	RING (2), LENS			
37	2-381-468-01	RING, STOPPER			
38	2-381-469-01	TUBE, VF			
39	2-381-470-02	HOLDER, LENS			
40	2-381-471-01	HOLDER, MIRROR			

## 5-3. ELECTRICAL PARTS LIST

## 5-3. 电子零部件表

Ref. No. Part No. Description

## VF-18A BOARD

△ A-7513-073-A MOUNTED CIRCUIT BOARD  
"VF-18A" (UC, J)

△ A-7513-074-A MOUNTED CIRCUIT BOARD  
"VF-18A" (EK)

C1 1-163-021-00 CERAMIC CHIP 0.01 50V  
C2 1-124-584-00 ELECT 100 20% 10V  
C3 1-124-584-00 ELECT 100 20% 10V  
C4 1-124-224-00 ELECT 47 20% 6.3V  
C5 1-123-611-00 ELECT 1 20% 50V  
  
C6 1-124-462-00 ELECT 10 20% 16V  
C7 1-163-113-00 CERAMIC CHIP 68PF 5% 50V  
C8 1-163-015-00 CERAMIC CHIP 0.0033 10% 50V  
C9 1-163-097-00 CERAMIC CHIP 15PF 5% 50V  
C10 1-124-927-11 ELECT 4.7 20% 100V  
  
C11 1-131-381-00 TANTALUM 47 10% 16V  
C12 1-131-365-00 TANTALUM 10 10% 16V

△ C13 1-106-351-00 MYLAR 0.0022 10% 100V

△ C14 1-106-343-00 MYLAR 0.001 10% 100V  
1-106-347-00 MYLAR 0.0015 10% 100V  
1-108-369-00 MYLAR 0.0022 10% 100V (EK)  
1-106-184-00 MYLAR 0.0033 10% 100V (EK)

C15 1-162-445-11 CERAMIC 0.01 2KV  
C16 1-102-047-21 CERAMIC 0.01 1KV  
C17 1-136-195-11 FILM 0.022 5% 400V  
C18 1-106-379-12 MYLAR 0.033 10% 200V  
C19 1-124-282-00 ELECT 22 20% 25V  
C21 1-131-381-00 TANTALUM 47 10% 10V

CN1 1-564-007-00 RECEPTACLE, 8P MALE  
CN2 1-564-004-00 RECEPTACLE, 5P MALE  
1-562-150-00 PLUG HOUSING 5P  
1-564-026-00 PLUG CONTACT  
CN3 1-564-002-00 RECEPTACLE, 3P MALE  
1-562-148-11 PLUG HOUSING 3P  
1-562-026-00 PLUG CONTACT  
CN4 1-564-004-00 RECEPTACLE, 5P MALE  
1-562-150-11 PLUG HOUSING 5P  
1-564-026-00 PLUG CONTACT  
CN5 1-564-001-11 RECEPTACLE, 2P MALE  
1-562-147-11 PLUG HOUSING 2P  
1-564-026-00 PLUG CONTACT  
CN6 1-564-001-11 RECEPTACLE, 2P MALE  
1-562-147-00 PLUG HOUSING 2P  
1-564-026-00 PLUG CONTACT

Ref. No. Part No. Description  
D1 8-719-100-38 RD6.2EB3

△ D2 8-719-100-38 RD6.2EB3

D3 8-719-100-05 1S2837  
D5 8-719-300-80 RU1A  
D8 8-719-100-03 1S2835  
D9 8-719-300-76 RH1

△ IC1 8-759-145-58 μPC4558C; NEC

L1 1-407-169-XX MICRO 100  
L2 1-407-165-XX MICRO 47  
L3 1-407-168-XX MICRO 87  
L4 1-407-169-XX MICRO 100

LV1 1-459-203-00 LINEARITY COIL 350/103

Q1 8-729-100-66 2SC1623  
Q2 8-729-100-66 2SC1623  
Q3 8-729-100-66 2SC1623  
Q4 8-729-100-66 2SC1623  
Q5 8-729-100-66 2SC1623

Q6 8-729-100-66 2SC1623  
Q7 8-729-100-66 2SC1623  
Q8 8-729-301-87 2SD1083L  
Q10 8-729-175-73 2SC2757

R1 1-216-065-00 METAL CHIP 4.7K 5% 1/10W  
R2 1-216-043-00 METAL CHIP 560 5% 1/10W

△ R3 1-215-440-00 METAL 6.2K 1% 1/6W

△ R4 1-215-430-00 METAL 2.4K 1% 1/6W

R5 1-216-073-00 METAL CHIP 10K 5% 1/10W  
R6 1-216-089-00 METAL CHIP 47K 5% 1/10W  
R7 1-216-089-00 METAL CHIP 47K 5% 1/10W  
R8 1-216-061-00 METAL CHIP 3.3K 5% 1/10W  
R9 1-216-069-00 METAL CHIP 6.8K 5% 1/10W  
R10 1-216-071-00 METAL CHIP 8.2K 5% 1/10W

Ref. No.	Part No.	Description
R11	1-216-049-00	METAL CHIP 1K 5% 1/10W
R12	1-216-037-00	METAL CHIP 330 5% 1/10W
R13	1-216-043-00	METAL CHIP 560 5% 1/10W
R14	1-216-049-00	METAL CHIP 1K 5% 1/10W
R15	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R16	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R17	1-216-065-00	METAL CHIP 4.7K 5% 1/10W
R18	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R19	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R20	1-216-089-00	METAL CHIP 47K 5% 1/10W
R21	1-216-025-00	METAL 100 5% 1/10W
R22	1-216-085-00	METAL CHIP 33K 5% 1/10W
R23	1-216-041-00	METAL CHIP 470 5% 1/10W
R24	1-216-049-00	METAL CHIP 1K 5% 1/10W
R25	1-216-073-00	METAL CHIP 10K 5% 1/10W
R26	1-216-073-00	METAL CHIP 10K 5% 1/10W
R27	1-216-023-00	METAL CHIP 82 5% 1/10W
R28	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R29	1-216-049-00	METAL CHIP 1K 5% 1/10W
R30	1-216-009-00	METAL CHIP 22 5% 1/10W
R31	1-216-057-00	METAL CHIP 2.2K 5% 1/10W
R33	1-214-960-00	METAL 680K 1% 1/4W
R34	1-215-474-00	METAL 160K 1% 1/6W
R35	1-216-023-00	METAL CHIP 82 5% 1/10W
R36	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R37	1-216-049-00	METAL CHIP 1K 5% 1/10W
R38	1-216-025-00	METAL CHIP 100 5% 1/10W
R39	1-216-079-00	METAL CHIP 18K 5% 1/10W
R40	1-214-964-00	METAL IM 1% 1/4W
R41	1-214-964-00	METAL IM 1% 1/4W
R42	1-216-023-00	METAL CHIP 82 5% 1/10W
R43	1-216-023-00	METAL CHIP 82 5% 1/10W

△RV1 1-230-520-11 METAL 1K

RV2 1-228-452-00 METAL 50  
RV3 1-230-849-11 METAL 2M  
RV4 1-230-529-11 METAL 470K

△T1 1-453-097-11 HIGH VOLTAGE BLOCK

Ref. No. Part No. Description

## VF-23 BOARD

△A-7513-075-A MOUNTED CIRCUIT BOARD  
"VF-23" (UC, J)

△A-7513-076-A MOUNTED CIRCUIT BOARD  
"VF-23" (EK)

C1	1-124-462-00	ELECT 10 20% 16V
C3	1-131-346-00	TANTALUM 0.68 10% 35V
C4	1-124-464-11	ELECT 0.22 20% 50V
C5	1-130-481-00	MYLAR 0.0068 5% 50V
C6	1-130-479-00	MYLAR 0.0047 5% 50V
C7	1-163-035-00	CERAMIC CHIP 0.047 50V
C8	1-163-035-00	CERAMIC CHIP 0.047 50V
C9	1-131-374-00	TANTALUM 33 10% 16V
C10	1-131-347-00	TANTALUM 1 10% 35V
C11	1-124-141-00	ELECT 330 20% 10V
C12	1-130-481-00	MYLAR 0.0068 5% 50V
C13	1-123-611-00	ELECT 1 20% 50V
C14	1-130-487-00	MYLAR 0.022 5% 50V
C15	1-124-462-00	ELECT 10 20% 16V
C16	1-124-140-00	ELECT 220 20% 10V
C17	1-163-021-00	CERAMIC CHIP 0.01 50V
C18	1-124-462-00	ELECT 10 20% 16V
C19	1-124-254-00	ELECT 0.68 20% 50V
C20	1-123-661-00	ELECT 100 20% 6.3V
C21	1-124-135-00	ELECT 470 20% 6.3V
C22	1-163-141-00	CERAMIC CHIP 0.001 10% 50V
C23	1-163-145-00	CERAMIC CHIP 0.0015 10% 50V
CN1	1-564-005-00	RECEPTACLE, 6P MALE
	1-562-151-11	PLUG HOUSING 6P
	1-564-026-00	PLUG CONTACT
CN2	1-564-001-11	RECEPRACLE, 2P MALE
	1-562-147-00	PLUG HOUSING 2P
	1-564-026-00	PLUG CONTACT
D1	8-719-101-23	1SS123

△IC1 8-759-300-28 HA11423MP: HITACHI

Ref. No.	Part No.	Description
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Q1	8-729-100-66	2SC1623
Q2	8-729-100-66	2SC1623
Q3	8-729-100-76	2SA812

Ref. No.	Part No.	Description
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**SW-91 BOARD**

1-610-102-00	PRINTED CIRCUIT BOARD "SW-91"
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RV1	1-230-075-00	CARBON 2K
RV2	1-230-075-00	CARBON 2K

S1	1-554-078-21	SLIDE
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**VIEWFINDER FRAME**

1-526-540-00	SOCKET, CRT
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1-546-043-21	PICTURE TUBE 40LB4
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CN1	1-556-889-41	8P PLUG WITH HARNESS (VF)
CN2	1-451-233-00	DEFLECTION YOKE

D6	8-719-905-56	EBR5504A "TALLY"
D8	8-719-800-25	TLR109A "REC"
D9	8-719-800-25	TLR109A "BATTERY"
D10	8-719-800-25	TLR109A "LOW LIGHT"
D11	8-719-800-19	TLR102A "+18 dB"

Q9	8-29-315-63	2SB856
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R1	1-216-109-00	METAL 330K 5% 1/10W
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R2	1-216-083-00	METAL CHIP 27K 5% 1/10W
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R3	1-216-067-00	METAL 5.6K 5% 1/10W
R4	1-216-049-00	METAL CHIP 1K 5% 1/10W
R5	1-216-075-00	METAL CHIP 12K 5% 1/10W

R6	1-216-093-00	METAL CHIP 68K 5% 1/10W
R7	1-216-079-00	METAL CHIP 18K 5% 1/10W
R8	1-216-071-00	METAL CHIP 8.2K 5% 1/10W
R9	1-216-083-00	METAL CHIP 27K 5% 1/10W
R10	1-216-027-00	METAL CHIP 120 5% 1/10W

R11	1-216-073-00	METAL CHIP 10K 5% 1/10W
R12	1-216-097-00	METAL CHIP 100K 5% 1/10W
R13	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R14	1-216-025-00	METAL CHIP 100 5% 1/10W
R15	1-216-025-00	METAL CHIP 100 5% 1/10W

R16	1-216-093-00	METAL CHIP 68K 5% 1/10W
R17	1-216-071-00	METAL CHIP 8.2K 5% 1/10W
R18	1-216-001-00	METAL CHIP 10 5% 1/10W
R19	1-216-067-00	METAL CHIP 5.6K 5% 1/10W
R20	1-216-081-00	METAL CHIP 22K 5% 1/10W

R21	1-216-061-00	METAL CHIP 3.3K 5% 1/10W
R22	1-216-059-00	METAL CHIP 2.7K 5% 1/10W
R23	1-215-377-00	METAL 15 1% 1/6W
R24	1-215-377-00	METAL 15 1% 1/6W (UC, J)
R24	1-215-382-00	METAL 24 1% 1/6W (EK)

R25	1-216-097-00	METAL CHIP 100K 5% 1/10W
R26	1-216-069-00	METAL CHIP 6.8K 5% 1/10W
R27	1-249-385-11	CARBON 2.2 5% 1/4W
R28	1-249-385-11	CARBON 2.2 5% 1/4W

RV1	1-230-522-11	METAL 4.7K
RV2	1-230-520-11	METAL 1K
RV3	1-230-519-11	METAL 470
RV4	1-230-522-11	METAL 4.7K



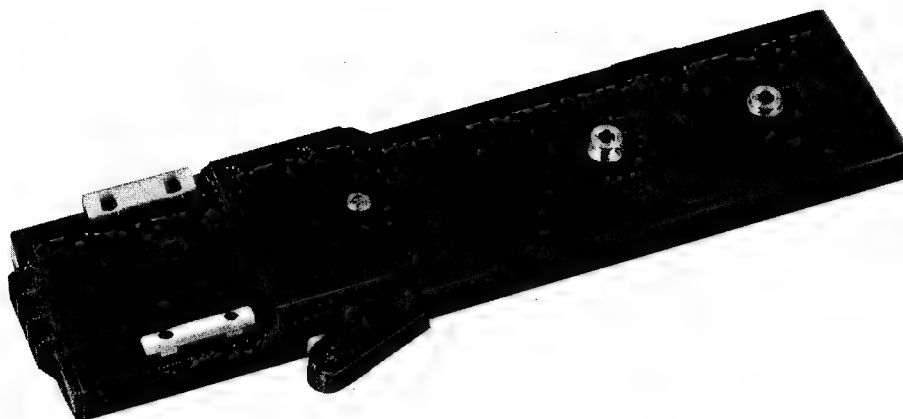
Ref. No.    Part No.    Description

5-4. PACKING MATERIAL AND ACCESSORIES

5-4. 包装物和附件

2-277-467-02	CUSHION, LOWER
2-381-442-00	CARTON, INDIVIDUAL
2-381-443-00	CUSHION, UPPER
3-701-613-00	BAG, POLY (FOR VF CONNECTOR)
3-701-630-00	BAG, POLY (FOR MANUAL AND DXF-3000/3000CE)

## TRIPOD ADAPTOR

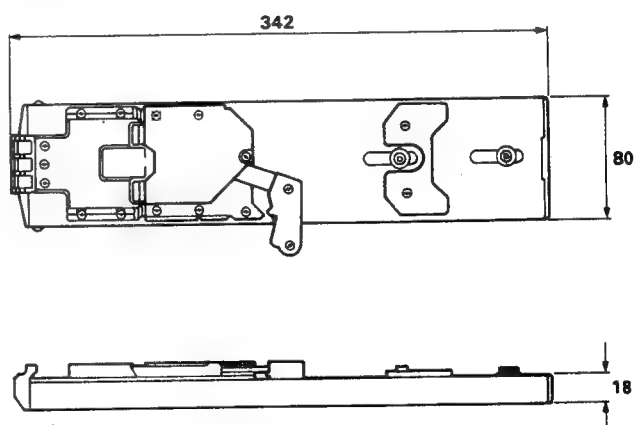


### SPECIFICATIONS

Tripod receptacles  $U^{3/8}$ " - 16UNC,  $U^{1/4}$ " - 20UNC  
Dimensions Approx. 340 × 32 × 105 mm (w/h/d)  
(13 $\frac{1}{2}$  × 1 $\frac{5}{16}$  × 4 $\frac{1}{4}$  inches)  
Weight Approx. 770 g (1 lb 11 oz)

Réceptacles pour trépied  $U^{3/8}$ " - 16UNC,  $U^{1/4}$ " - 20UNC  
Dimensions Env. 340 × 32 × 105 mm (l/h/p)  
(13 $\frac{1}{2}$  × 1 $\frac{5}{16}$  × 4 $\frac{1}{4}$  pouces)  
Poids Env. 770 g (1 livres 11 onces)

Befestigungslöcher  $U^{3/8}$ " - 16UNC,  $U^{1/4}$ " - 20UNC  
Abmessungen ca. 340 × 32 × 105 mm (B/H/T)  
Gewicht ca. 770 g



**SONY**  
**SERVICE MANUAL**

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## **1. GENERAL DESCRIPTION**

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## **2. SPARE PARTS**

**2-1. EXPLODED VIEW ..... 2-1**

## SECTION 1

### GENERAL DESCRIPTION

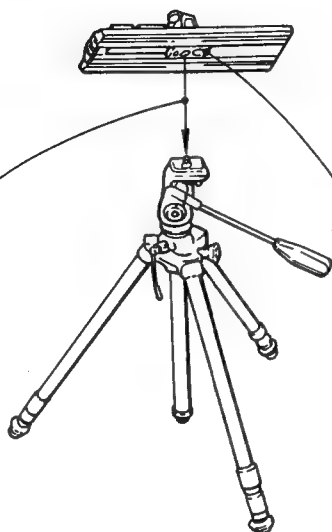
#### 1. HOW TO USE/UTILISATION/VERWENDUNG

- 1 Attach the tripod attachment to the tripod.  
Fixer l'attache pour trépied sur le trépied proprement dit.  
Bringen Sie den Stativadapter am Stativ an.

Fit the screw of the tripod into one of the two receptacles on the bottom of the tripod attachment.

Introduire le filetage du trépied dans l'un des deux réceptacles, prévus sur le fond de l'attache.

Stecken Sie die Schraube des Stativs in eine der beiden Befestigungslöcher an der Unterseite des Stativadapters.



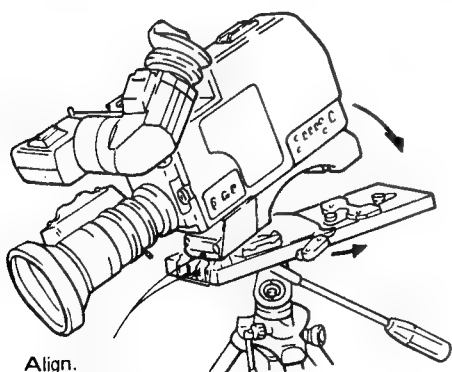
After attaching the camera as in step 2, loosen the screw of the tripod, and move this fitting forward or backward to the location at which the camera is balanced, then tighten the screw of the tripod.

Après avoir fixé la caméra à l'étape 2, desserrer la vis du trépied et déplacer l'applique du trépied en avant ou en arrière à la position équilibrée de la caméra.

Resserrer ensuite la vis du trépied.

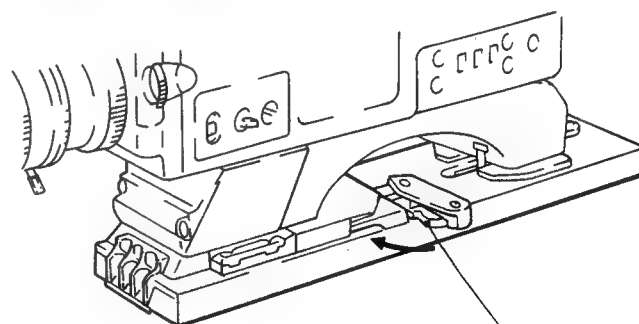
Nachdem Sie die Kamera wie in Schritt 2 am Stativadapter befestigt haben, lösen Sie die Schraube des Stativs und bewegen dann diese Befestigung nach vorn bzw. hinten, bis Sie die Lage ermittelt haben, auf der die Kamera gut ausbalanciert ist. Ziehen Sie die Schraube des Stativs danach wieder an.

- 2 Attach the camera to the tripod attachment.  
Fixer la caméra vidéo sur l'attache pour trépied.  
Befestigen Sie die Kamera auf dem Stativadapter.



Align.  
Faire correspondre exactement.  
Ausrichten.

#### How to detach the camera Séparation de la caméra vidéo Abnehmen der Kamera



While depressing the red button, slide the lever in the direction of the arrow, and detach the camera.

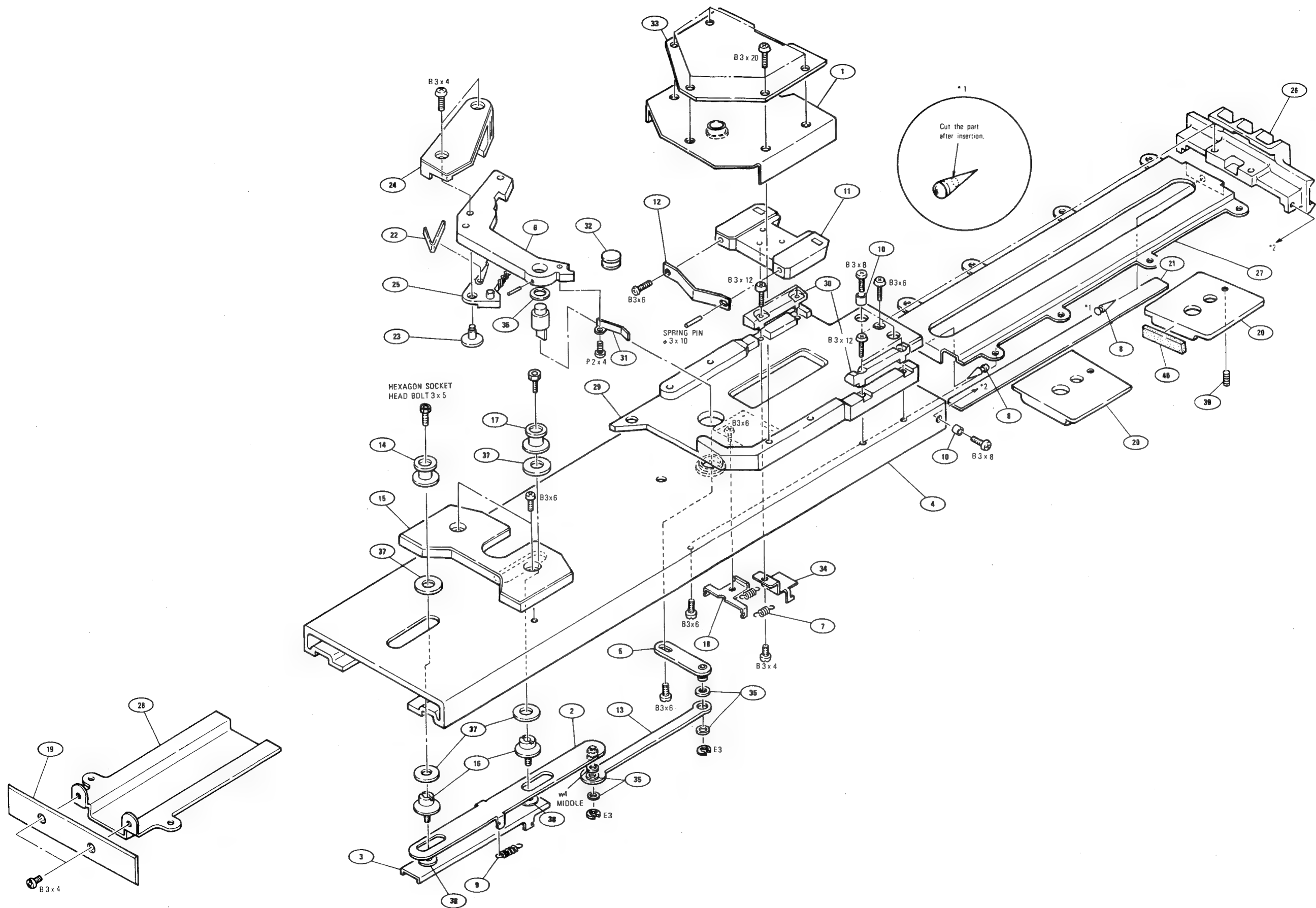
Tout en appuyant sur le bouton rouge, glisser le levier dans le sens de la flèche et séparer la caméra.

Zum Abnehmen den roten Knopf gedrückt halten und den Hebel in Pfeilrichtung schieben.

## SECTION 2 SPARE PARTS

### 2-1. EXPLODED VIEW

No.	Part No.	Description
1	X-3676-100-1	LID ASSY, UPPER
2	X-3676-101-1	PLATE (A) ASSY, SLIDE
3	X-3676-102-1	PLATE (B) ASSY, SLIDE
4	X-3676-103-1	TABLE ASSY, ATTACHMENT
5	X-3676-104-1	PLATE ASSY, ROTARY
6	X-3678-636-1	LEVER ASSY, CLAMP
7	<b>3-492-235-XX</b>	<b>SPRING, TENSION</b>
8	3-644-002-00	CUSHION, HANDLE
9	3-648-211-00	SPRING, TENSION
10	3-654-058-11	SPACER (3X2)
11	3-676-392-00	BRACE, SLIDE
12	3-676-394-00	SPRING, LEAF
13	3-676-397-02	JOINT
14	3-678-701-00	PIN (B), VTR
15	3-678-704-00	SPACER
16	3-678-705-00	SHAFT, VTR PIN RETAINER
17	3-678-706-00	PIN (A), VTR
18	3-678-707-00	PLATE (B), FIXED, SPRING
19	3-678-708-00	CAP
20	3-678-709-00	BRACE, FITTING
21	3-678-711-02	SHEET (B), REAR PLATE
22	3-678-713-00	SPRING (L), LEAF
23	3-678-715-00	PIN, TRIGGER
24	3-678-716-00	KNOB, LEVER
25	3-678-718-00	LEVER, LOCK
26	3-678-719-00	BRACE, RETAINER
27	3-678-720-02	PLATE (A), REAR
28	3-678-721-02	PLATE (B), REAR
29	3-678-722-02	SPACER, T SHOE
30	3-678-783-00	GUIDE, T SHOE
31	3-685-121-01	SPRING, LEAF
32	2-685-122-01	ROLLER
33	3-687-124-01	RETAINER
34	3-687-137-01	PLATE (A), FIXED, SPRING
35	<b>3-701-441-11</b>	<b>WASHER, 4</b>
36	<b>3-701-444-01</b>	<b>WASHER, 6</b>
37	<b>3-701-446-01</b>	<b>WASHER, 8</b>
38	<b>3-701-446-11</b>	<b>WASHER, 8</b>
39	<b>3-701-511-00</b>	<b>SET SCREW, DOUBLE POINT 4 X 6</b>
40	9-911-840-XX	CUSHION





## ZOOM LENS



### SPECIFICATION

#### Zoom lens (VCL-1012BY)

Focal length	10 mm to 120 mm
Zoom	Manual and motorized, selectable
	Zooming ratio: 12 x
Maximum aperture ratio	1:1.7
Iris control	Manual and auto, selectable
	1.7 to 16 and C (closed)
Range of object field (at the distance of 1 meter)	
	W (wide angle): 616 x 822 mm
	(24 1/4 x 32 3/8 inches)
	T (telephoto): 51.4 x 68.5 mm
	(2 1/32 x 2 11/16 inches)
Minimum object distance	1 m
Filter thread	72 mm dia. 0.75 mm-pitch
Mount	Bayonet mount
Weight	Approx. 1.4 kg (3 lb 1 oz) with hood
Dimensions	Approx. 120 mm dia. x 204 mm
	(4 3/4 x 8 1/32 inches)



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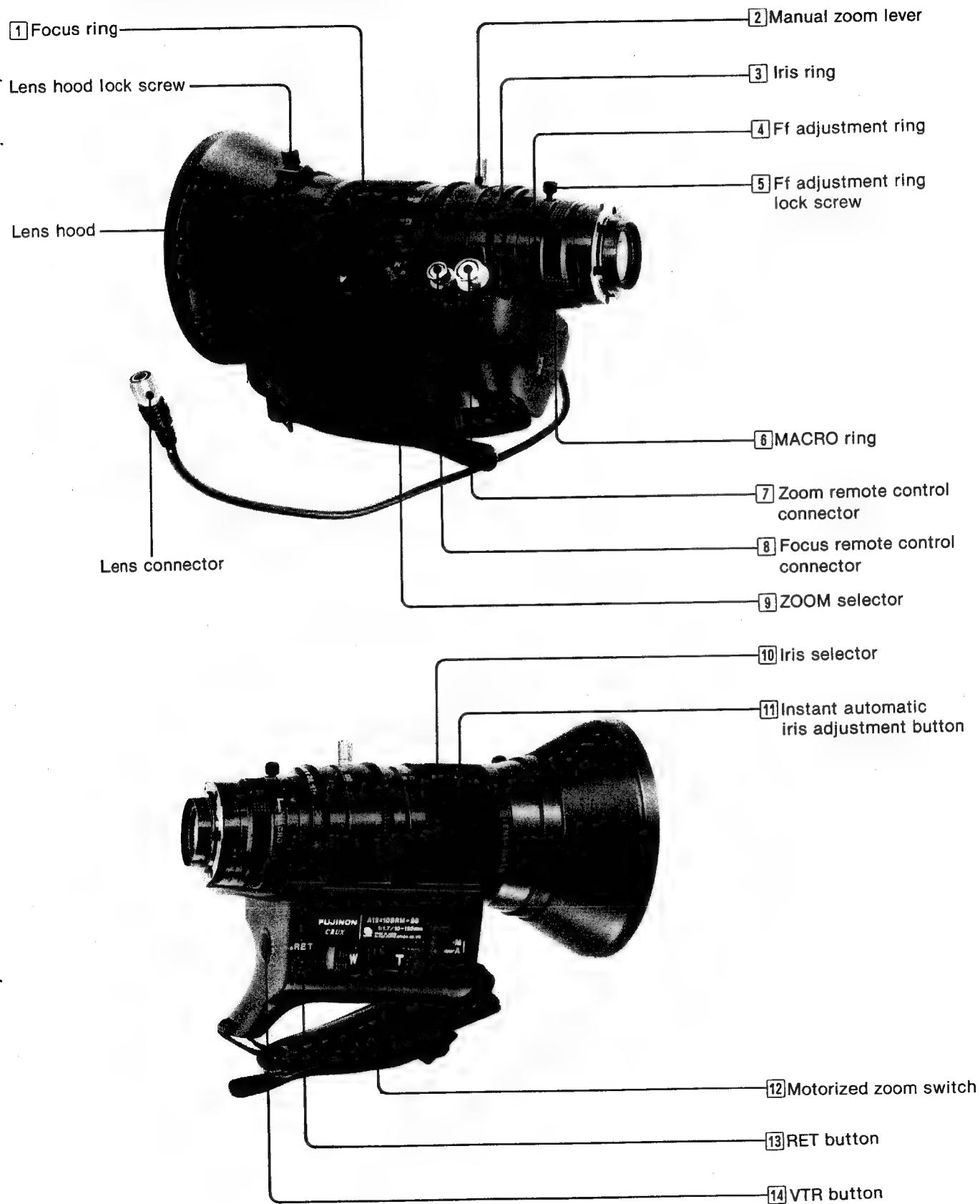
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## SECTION 1

### GENERAL DESCRIPTION

#### 1-1. LOCATION AND FUNCTION OF CONTROLS



**1 Focus ring**

Turn this ring for focusing.

**2 Manual zoom lever**

For manual zooming, turn this lever with the ZOOM selector set to M.

**3 Iris ring**

For manual iris adjustment, turn this ring with the iris selector set to M.

**4 Ff (flange focal length) adjustment ring**

Turn to adjust the flange focal length. See page 1-26.

**5 Ff (flange focal length) adjustment ring lock screw**

Locks the Ff ring at the adjusted position.

**6 MACRO (close-up) ring**

Used for close-ups. See page 1-33.

**7 Zoom remote control connector (8-pin)**

Connect an LO-23 lens remote control unit (optional) for remote control of zooming when the camera is attached to a tripod.

**8 Focus remote control connector (3-pin)**

This connector is used for motorized focusing.

**9 ZOOM selector**

**S:** For motorized zooming.

**M:** For manual zooming.

**10 Iris selector**

**A:** For automatic iris adjustment.

**M:** For manual iris adjustment.

**11 Instant automatic iris adjustment button**

The iris is automatically adjusted while this button is kept depressed, when the iris selector **10** is set to M. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

**12 Motorized zoom switch**

Press either end of this switch for motorized zooming with the ZOOM selector set to S:W for a wide-angle picture and T for a telephoto picture. Zooming is faster when the switch is pressed down all the way and slower when the switch is pressed down only slightly.

**13 RET (return video) button**

Press to view the picture from the VTR during recording, the playback picture during playback, or the signal from a control console such as a video switcher on the viewfinder screen. This button has the same function as the VTR START/RETURN VIDEO button of the camera (return video switch) when a CCU-M3/M3P is connected.

**14 VTR button**

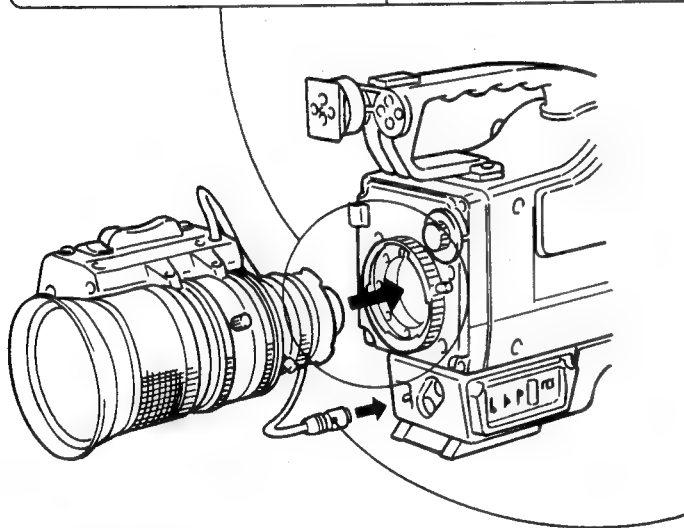
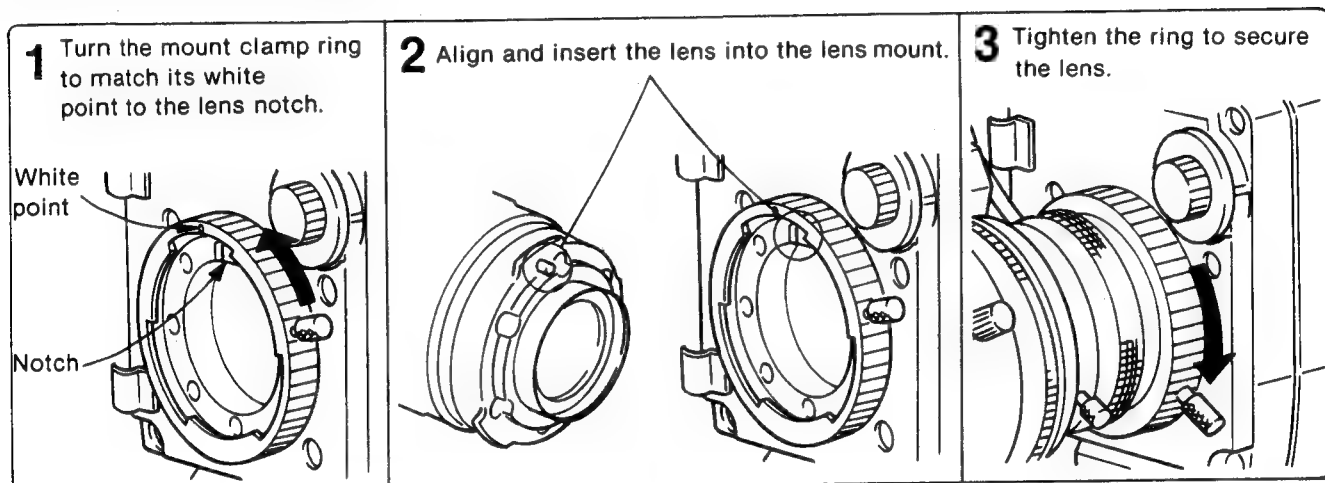
When a portable VTR is connected to the camera, press this button to start and stop recording. This button has the same function as the VTR START/RETURN VIDEO button of the camera (start switch).

## 1-2. SYSTEM SET-UP

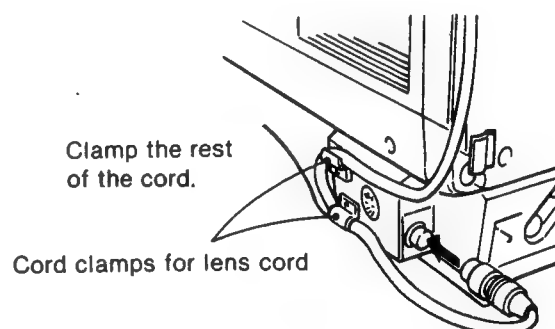
### LENS ATTACHMENT

#### Notes

Before attaching the lens, remove the protective caps from the mounts of the camera and the lens.

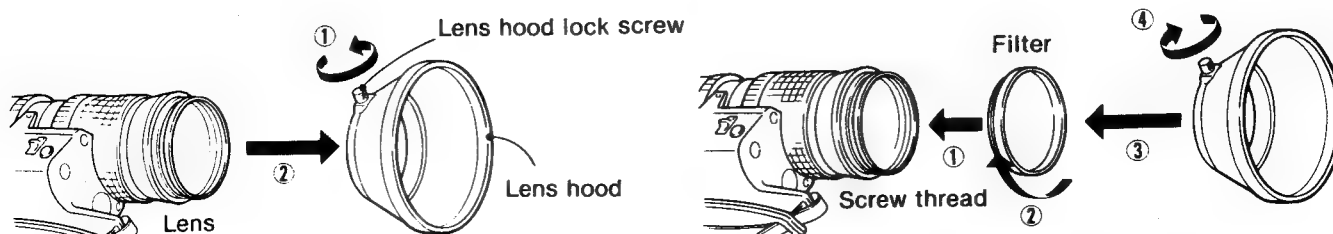


#### 4 Connect the lens cable to the LENS connector.



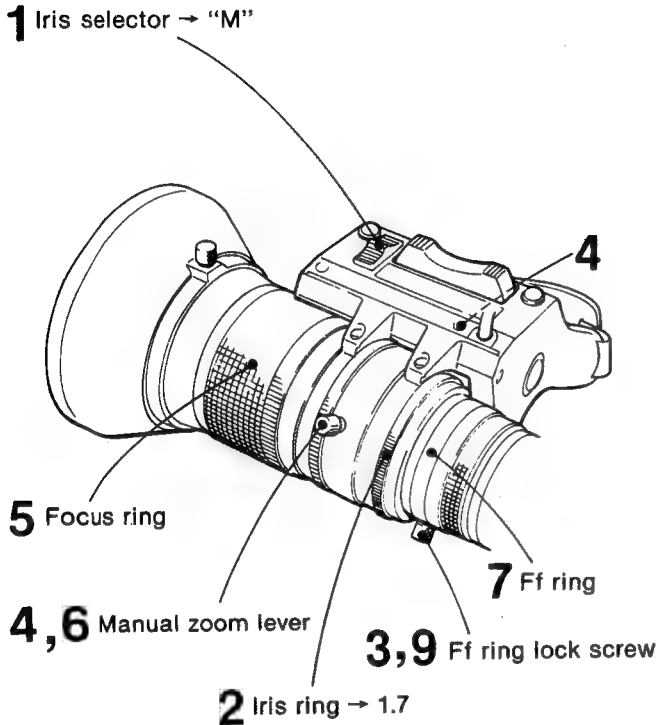
#### How to attach an optional filter to the lens

- 1 Loosen the lens hood lock screw and detach the lens hood.
- 2 Screw the filter into the screw thread at the front of the lens. Then attach the lens hood and tighten the lens hood lock screw.



## FLANGE FOCAL LENGTH ADJUSTMENT

The proper flange focal length adjustment ensures that the object is in focus both at the wide-angle position and at the telephoto position when zooming.

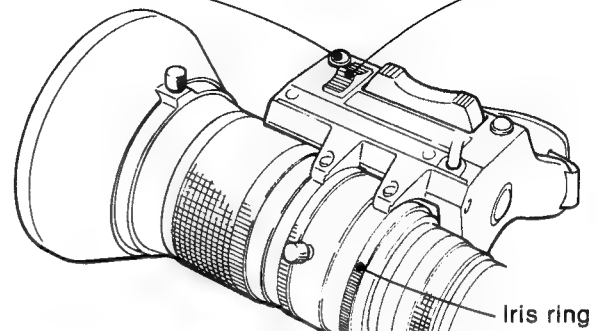


- 1 Set the iris selector to "M".
- 2 Set the iris ring to "1.7".  
Position an appropriate object and illuminate it so that the proper video level is obtained when the iris ring is set to "1.7".
- 3 Loosen the Ff ring lock screw.
- 4 Set the ZOOM selector to M and turn the manual zoom lever to the "120" telephoto position.
- 5 Turn the focus ring until an object at about three meters (10 feet) from the lens is in focus. An object with fine detail is desirable.
- 6 Turn the manual zoom lever to the "10" wide-angle position.
- 7 Turn the Ff ring until the same object is in focus. Be sure not to turn the focus ring.
- 8 Repeat Steps 4 through 7 until the object is in focus both at the telephoto position and at the wide-angle position.
- 9 Tighten the Ff ring lock screw.  
Once the flange focal length adjustment has been made, readjustment is not necessary as long as the lens stays mounted on the same camera.

## IRIS ADJUSTMENT

Instant automatic iris adjustment button

Iris selector



### Automatic adjustment

Set the iris selector to "A", and the iris will be automatically adjusted to the brightness of the object. Normally use the "A" position.

### Manual adjustment

Set the iris selector to "M", and turn the iris ring. Manual adjustment may be effective when recording an object against a bright sky or a scene with high contrast.

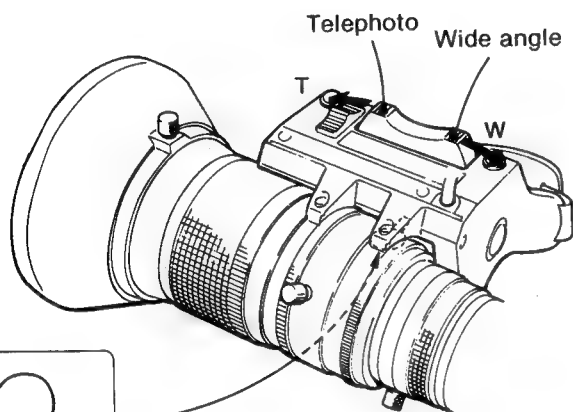
### Temporary automatic adjustment

While the instant automatic iris adjustment button is kept depressed during manual iris adjustment, the iris is automatically adjusted. When the button is released, the iris will be fixed at the value that has just been obtained until the iris is adjusted again manually.

## ZOOMING

### Motorized zooming

You can zoom smoothly. Zooming is faster when the motorized zoom switch is pressed down all the way and becomes slower when it is pressed down only slightly.



### Tips on zooming

**Zoom in:** From wide angle to telephoto. Used to bring a distant object up close.

**Zoom out:** From telephoto to wide angle. Used to move back from an object and gradually reveal the object's surroundings.

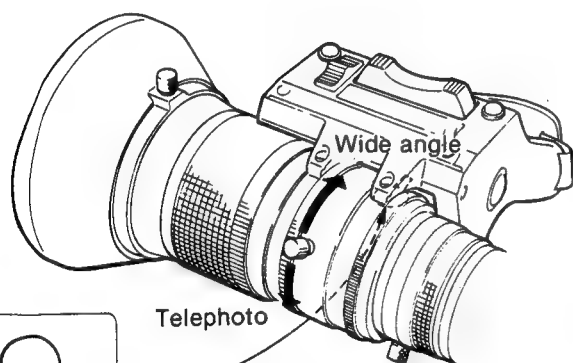
**Following:** Zoom up on the subject and follow its movement with the camera. This zoom effect is used, for example, to emphasize the speed of the subject by making the background rush past in a blur.

**Correct focusing:** If the focus is right in the telephoto position, it will be right when you zoom back to wide angle.

**For a more stable picture,** we recommend placing the camera on a tripod when zooming. If you zoom with the camera on your shoulder, stand as steady as possible.

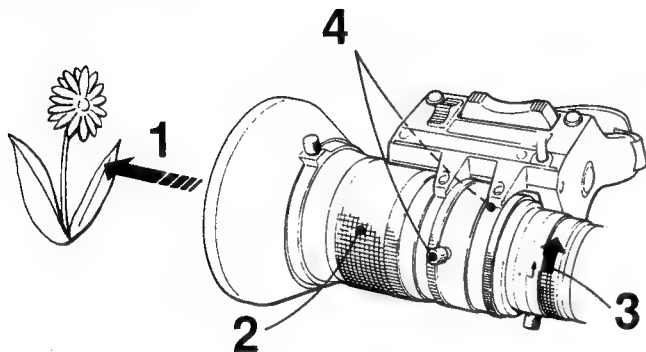
### Manual zooming

Manual zooming allows more precise control of the zooming speed.



**CLOSE-UPS** — Shooting small or nearby objects

The close-up or macro function lets you zoom in flowers, insects and even photographs. The minimum distance from the lens to the object is 80 mm in the "10" wide-angle zoom position.



- 1 Adjust the distance between the lens and the object to get the desired image size.
- 2 Set the focus ring to the "one meter (1 m)" setting.
- 3 Turn the MACRO ring in the direction of the "MACRO" arrow until it stops.
- 4 Focus by turning the manual zoom lever with the zoom selector set to "M".

When the close-ups operation is completed, return the MACRO ring to its original position.

**Note**

- If you wish to reduce the object's size on the screen, first adjust the focus following Steps 1 through 4 above, then turn the MACRO ring slightly toward its original position and adjust the focus with the manual zoom lever again.
- If the focus ring is set to " $\infty$ " while the MACRO ring is turned to "MACRO", the focus can be continually adjusted from the close-ups position to " $\infty$ " with the manual zoom lever.

## SECTION 2

### SERVICE INFORMATION

#### 2-1. LENS CLEANING

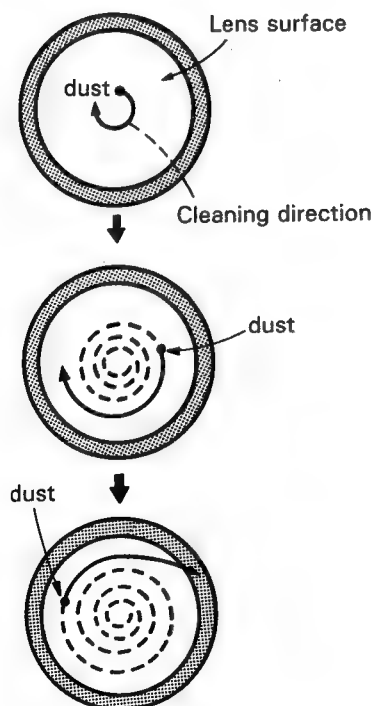
##### 2-1-1. Lens Body

If any foreign obstacle remains on the lens surface, wipe it off with a soft cotton or leather. If the lens cannot be cleaned easily, clean it with alcohol-soaked cotton. Do not clean plastic parts (hood, etc.) of the camera body with an alcohol-soaked cloth.

##### 2-1-2. Lens Surface

If dust remains on the lens surface, blow it off with a dust blower, or wipe it off with a soft brush.

Any fingerprint, if found on the lens surface, should be wiped off with commercially available lens cleaner or with a clean soft cotton or lens cleaning paper soaked in a solution composed of 20 % alcohol and 80 % ether or acetone. Be sure to wipe off the lens surface in a spiralling motion starting from the center of the lens toward the lens rim. If the lens surface is not cleaned completely with a single try, repeat with fresh cotton or lens cleaning paper. Do not rub a dust-contaminated lens surface too strongly as this may scratch the lens surface.



#### 2-2. REPAIR OF LENS

If any defect is found in the lens body, replace the lens body, or contact the nearest of the service agents listed below.

##### Europe:

Canon Europe N.V.  
Industrial Products Div.  
Unit 3, Brent Trading Center  
North Circular Rd, London, NW 10 OJF, UK  
Tel.: 01-451-4511  
Telex: 295776  
Attn.: Mr. Luck

##### U.S.A.

Canon U.S.A. INC. (Head office)  
One Canon Plaza  
Lake Success, NY 11042, U.S.A.  
Tel.: 516-488-6700  
Attn.: Mr. Kishi

Canon U.S.A. INC. (Chicago office)  
140 Industrial Driver  
Elmhurst IL 60126, U.S.A.  
Tel.: 312-833-3070  
Attn.: Mr. Desoto

Canon U.S.A. INC. (Los Angeles office)  
123 Paularino Avenue East.  
Costamsa, CA 92626, U.S.A.  
Tel.: 714-979-6000  
Attn.: Mr. Endo

##### Canada:

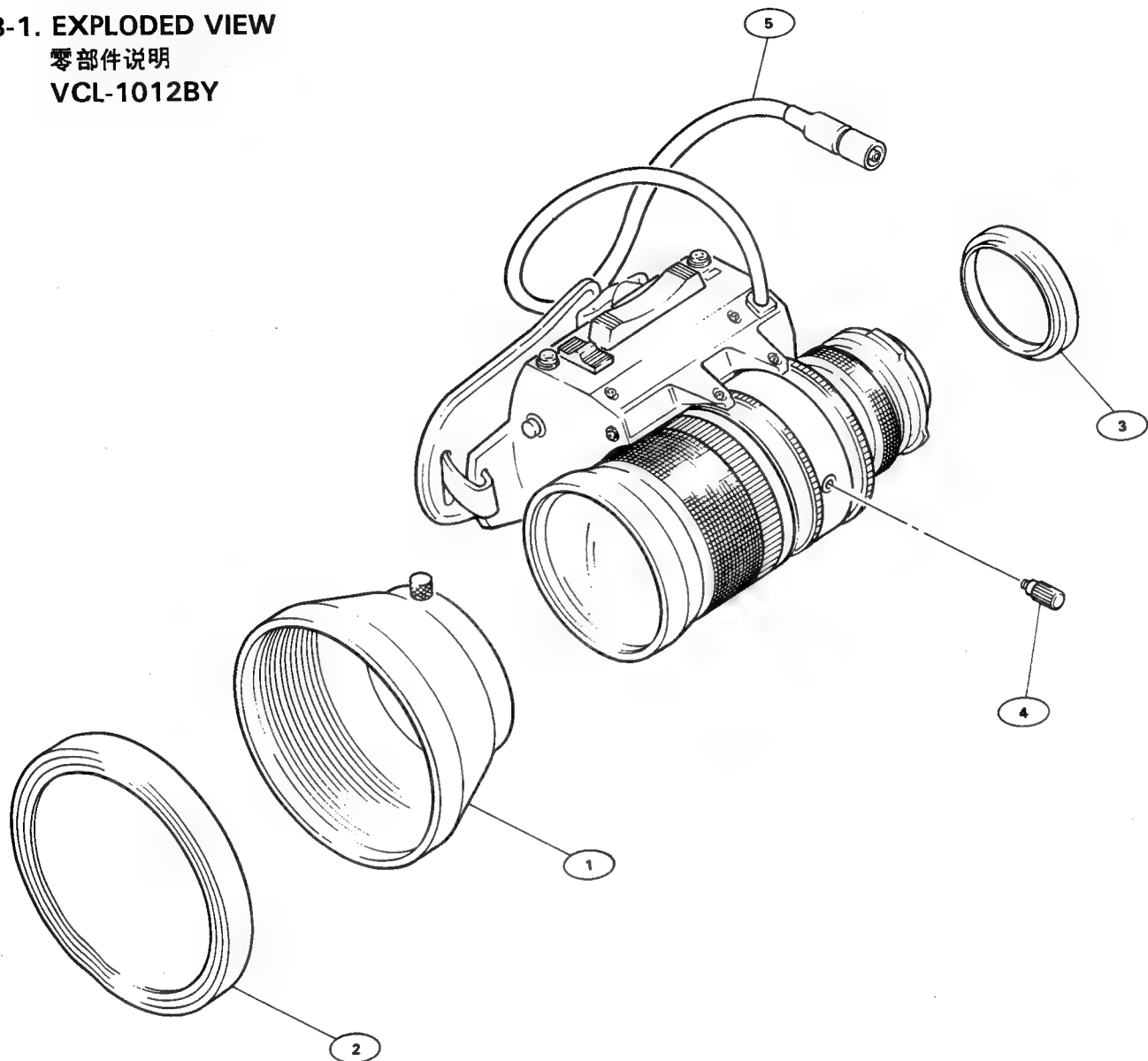
Canon Canada Inc.  
6390 Dixie Road, Mississauga, Ontario L5T 1P7, Canada  
Tel.: 416-678-2730  
Attn.: Mr. Arase



**SECTION 3  
SPARE PARTS****第3章  
备件****3-1. EXPLODED VIEW**

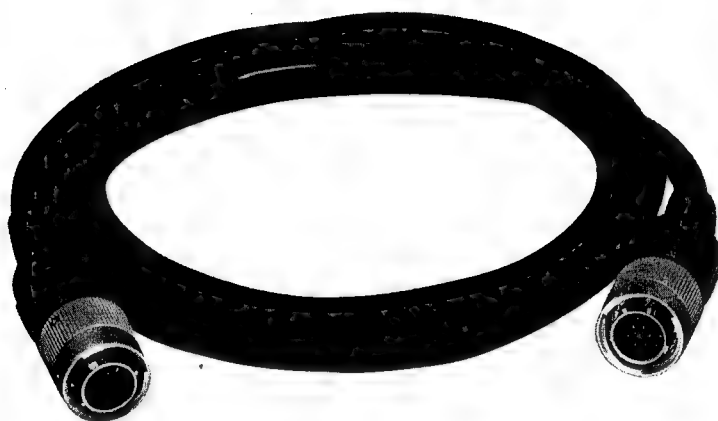
零部件说明

VCL-1012BY



No.	Parts No.	Description
1	3-707-244-01	HOOD
2	3-707-245-01	CAP, HOOD
3	3-707-246-01	CAP, DAST
4	3-707-247-01	LEVER, ZOOM
5	1-558-472-11	CABLE, WITH 6P PLUG

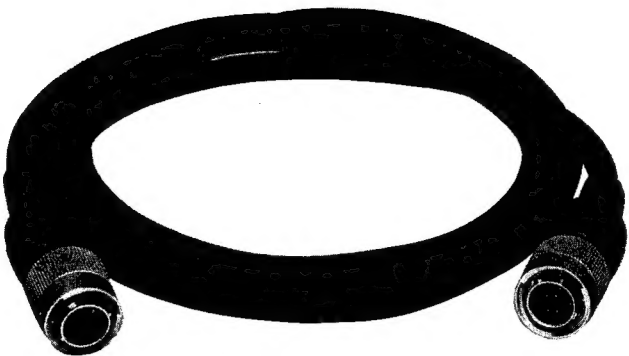
## CAMERA CABLE



**SONY<sup>®</sup>**  
**SERVICE MANUAL**

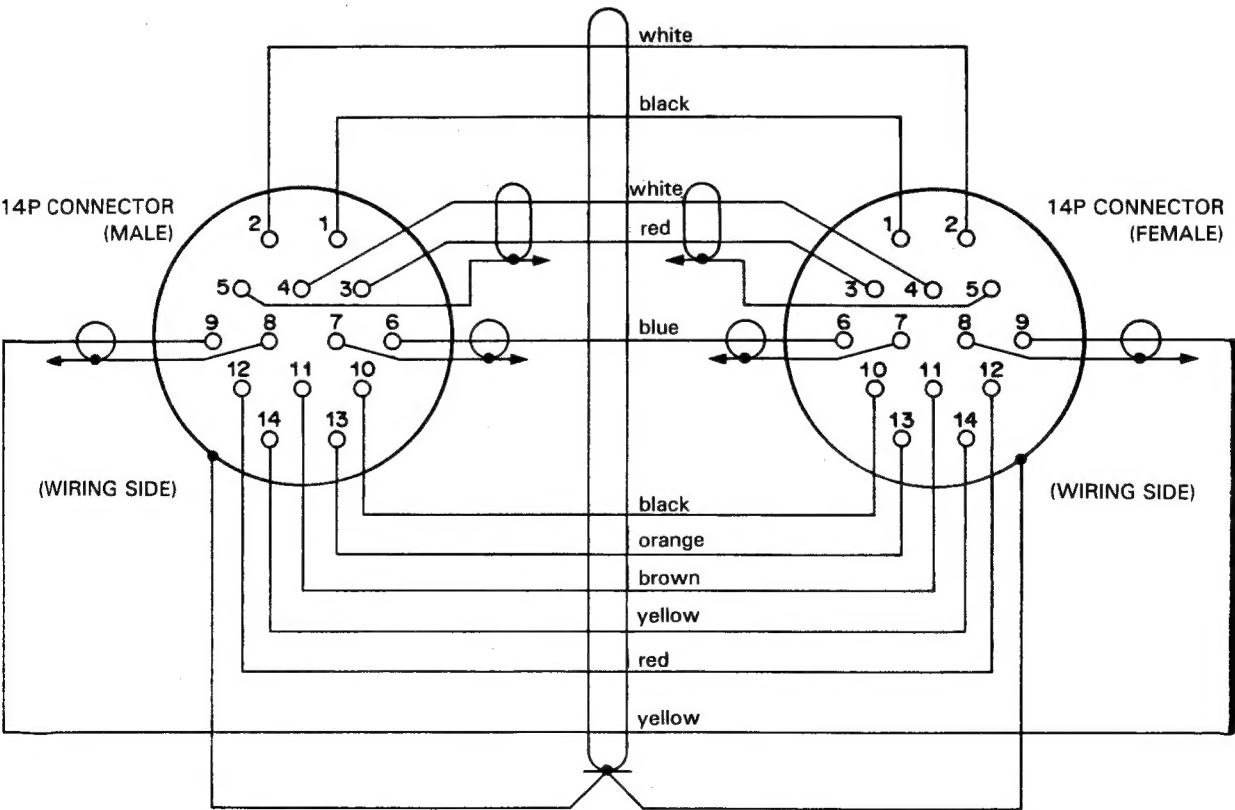
CCQ-2ARS

CCQ-2ARS Cable



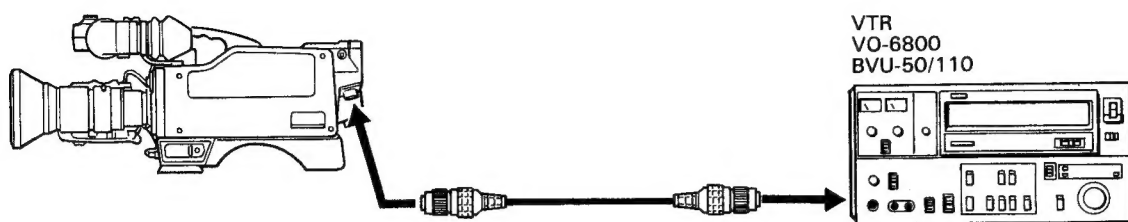
MODEL	CCQ-2ARS	CCQ-5ARS	CCQ-10ARS	CCQ-25ARS	CCQ-50ARS
LENGTH	2 m (6.6 feet)	5 m (16.4 feet)	10 m (32.8 feet)	25 m (82 feet)	50 m (164 feet)

WIRING DIAGRAM

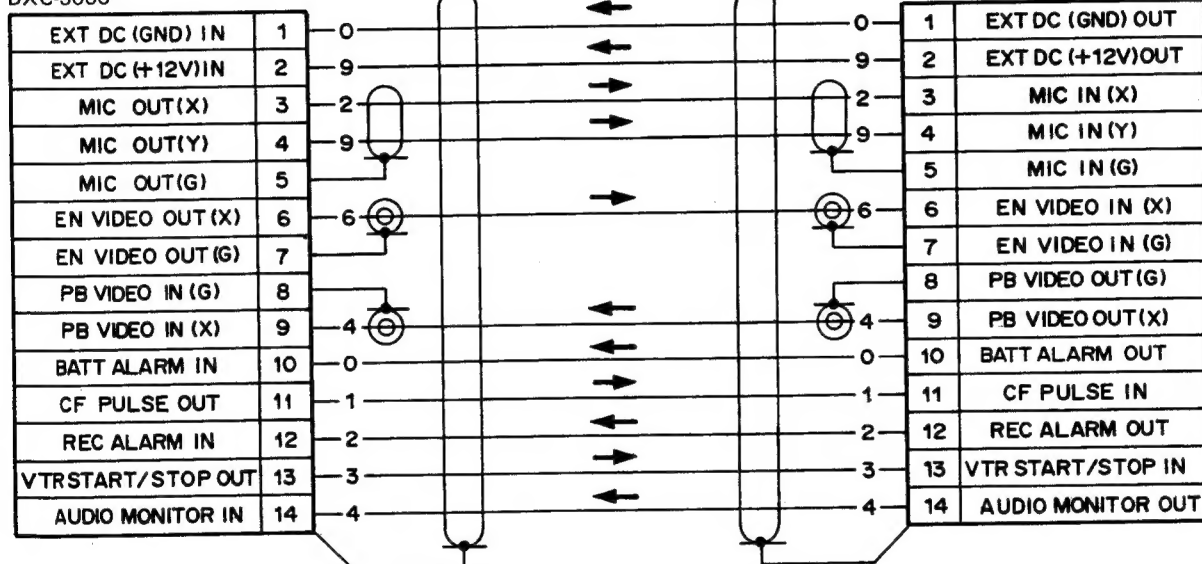


## CONNECTION EXAMPLE

DXC-3000

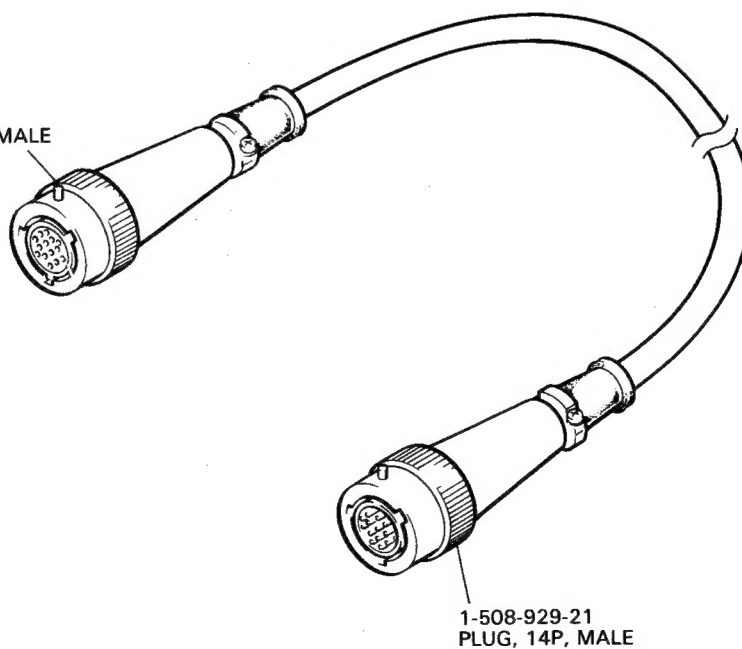


DXC-3000



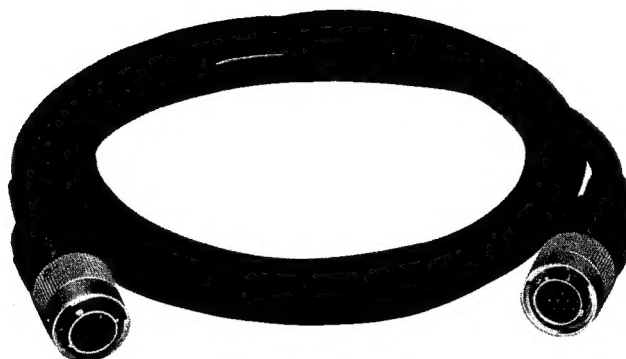
## SPARE PARTS

1-561-043-21  
PLUG, 14P, FEMALE



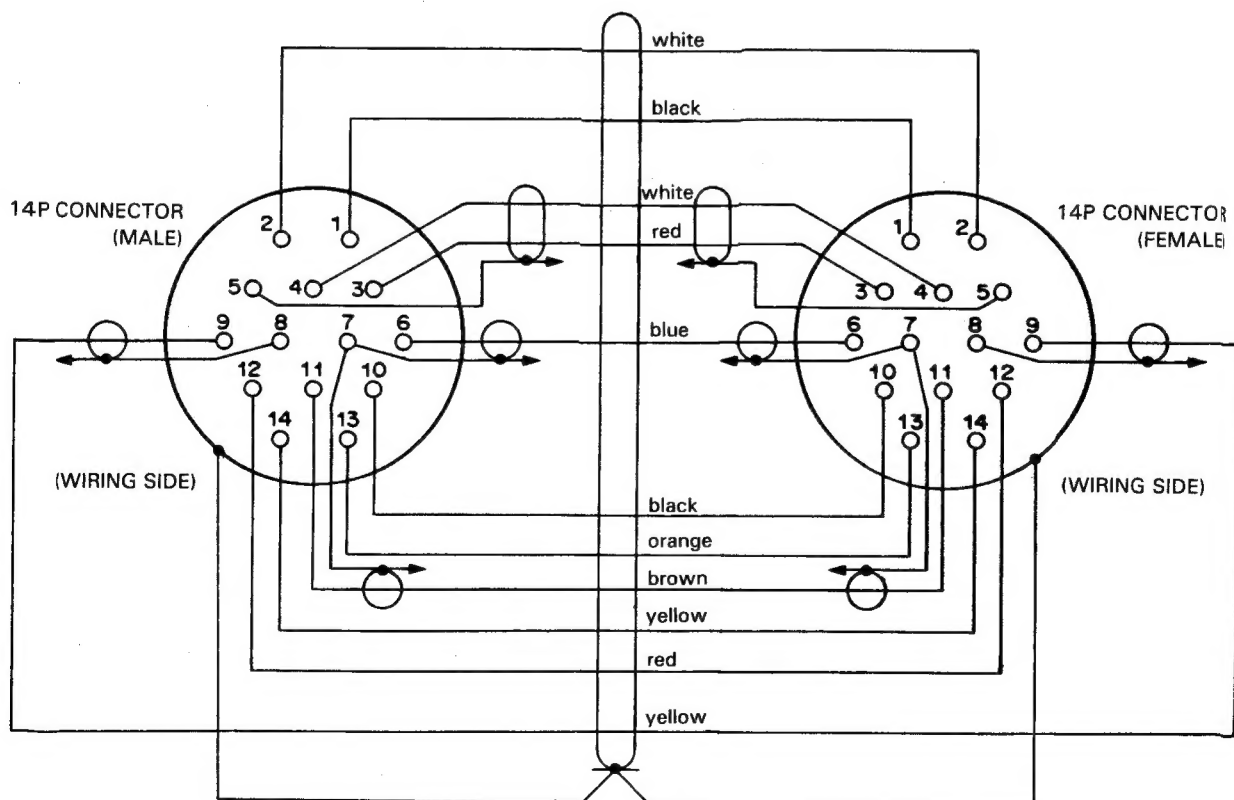
## CCQ-2BRS

### CCQ-2BRS Cable



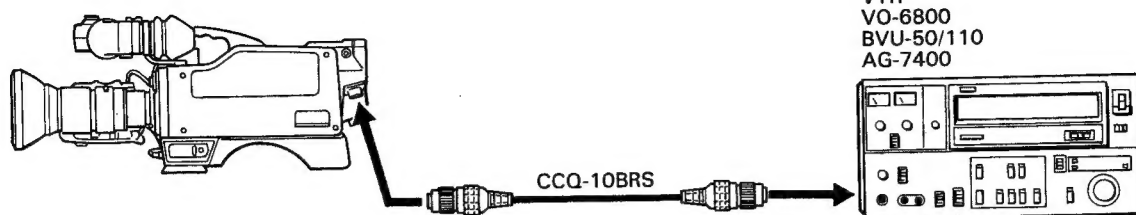
MODEL	CCQ-2BRS	CCQ-5BRS	CCQ-10BRS
LENGTH	2 m (6.6 feet)	5 m (16.4 feet)	10 m (32.8 feet)

### WIRING DIAGRAM

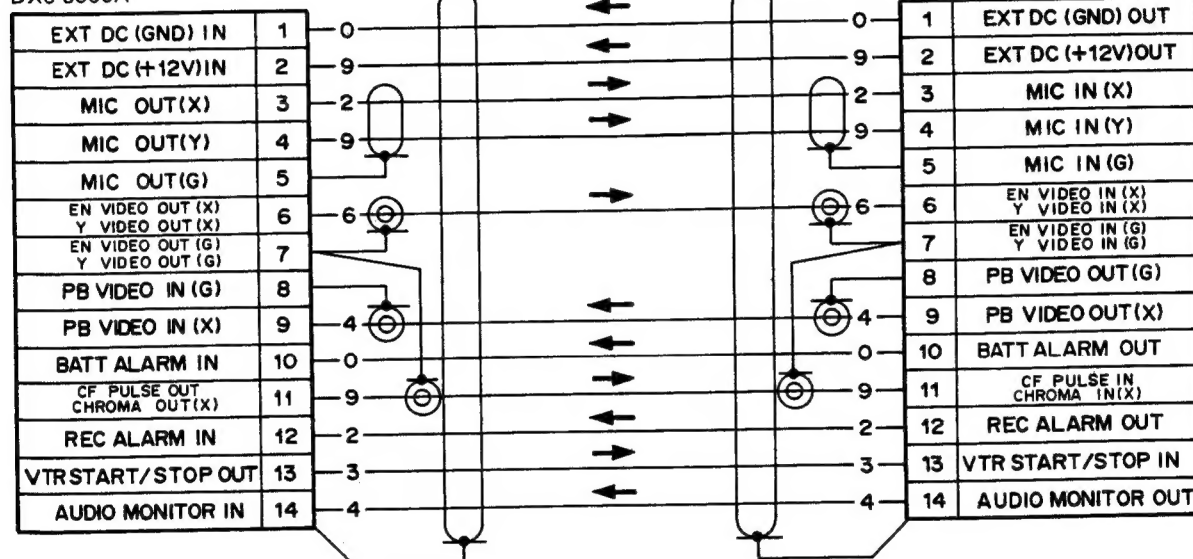


## CONNECTION EXAMPLE

DXC-3000A

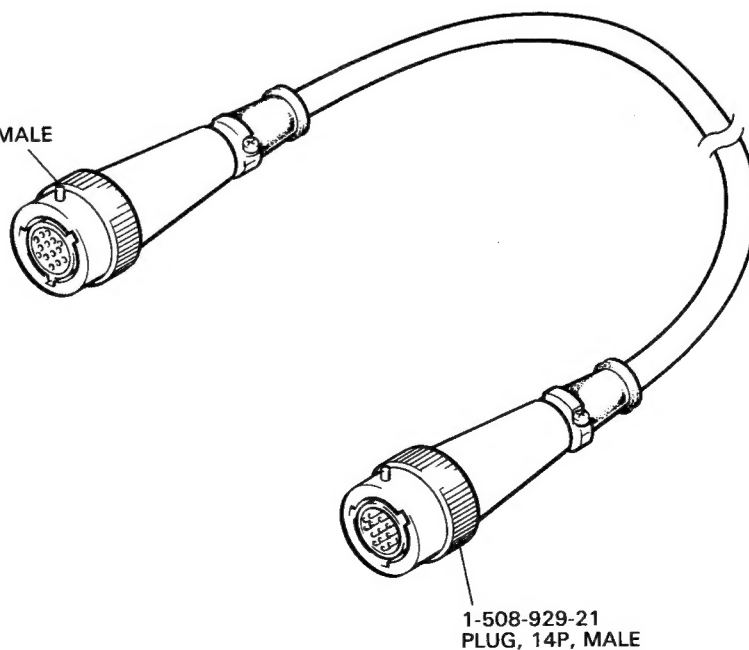


DXC-3000A



VTR

## SPARE PARTS

1-561-043-21  
PLUG, 14P, FEMALE1-508-929-21  
PLUG, 14P, MALE